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Your Ref: TP/IP/55759/2018
Our Ref : CI/TPD18019472/Z

05th April 2019

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

MECHANICAL INSPECTION REPORT OF MOTOR VAN GR 8267S

1. We refer to your request on 19th October 2018 to conduct a physical inspection of a motor Van bearing registration number GR 8267S (herein referred to as "**Motor Van**"), which was involved in a fatal road traffic accident on 29th September 2018.

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

3. Following the request, we had carried out a physical inspection of the Motor Van on 19th November 2018 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 Van at the time of our inspection was recorded as 440685km.

5. The Motor Van was observed to have sustained minor damages at its front right headlamp; front right lower bumper; front windshield, rear right sliding door and its front right door were amongst the body parts that were damaged as a result of the accident.

6. This was likely to be the consistency of the accident's case facts that on 29th September 2018, sometime before 1311hrs, a Motor Lorry (YN 1369K) was travelling along PIE (Tuas) on lane 2 of a 5 lanes road when he lost control of the vehicle and veered to the left. The said Motor Lorry skidded and collided onto a Motor Cycle (JRB 2580) and a Motor Van (GR 8267S). See photo 1 to 6 below.

Photo 1 shows the mileage of the Motor Van at the time of our inspection was recorded as 440685km.

Photo 2 shows a general view of the front portion of the Motor Van at the time of our inspection. The Motor Van was observed to have sustained extensive damages at its front right headlamp; front right lower bumper and its right driver door were amongst the body parts that were damaged as a result of the accident.

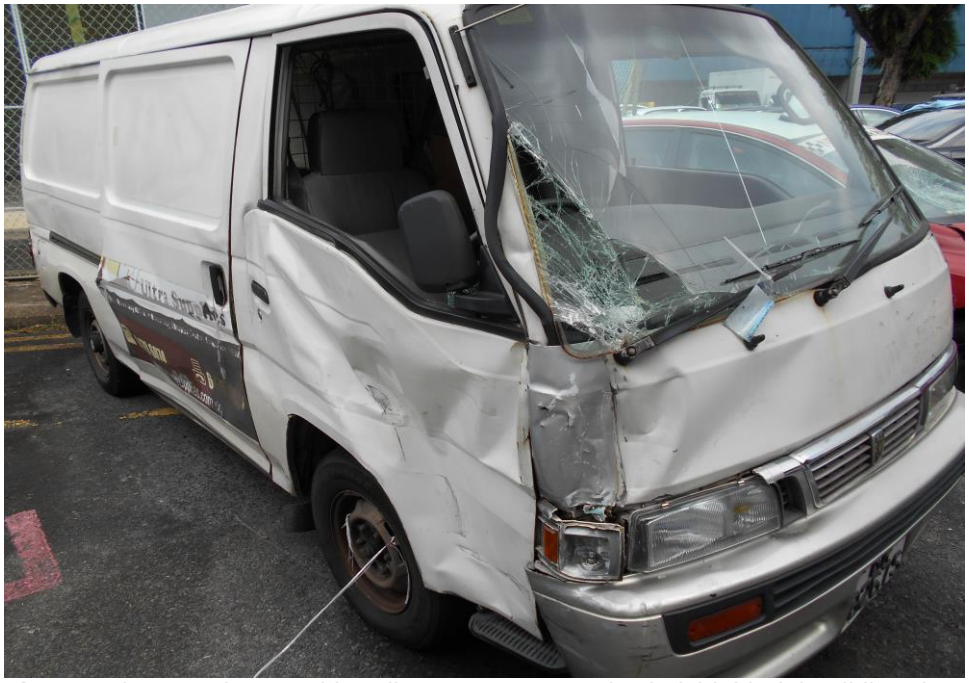


Photo 3 shows a damaged headlamp, centre panel, windshield, right sliding door and right door likely due to the accident's impact.

Photo 4 shows the close-up view of the damaged right sliding door of the Motor Van. It was observed to have sustained damages as a result of the accidents.

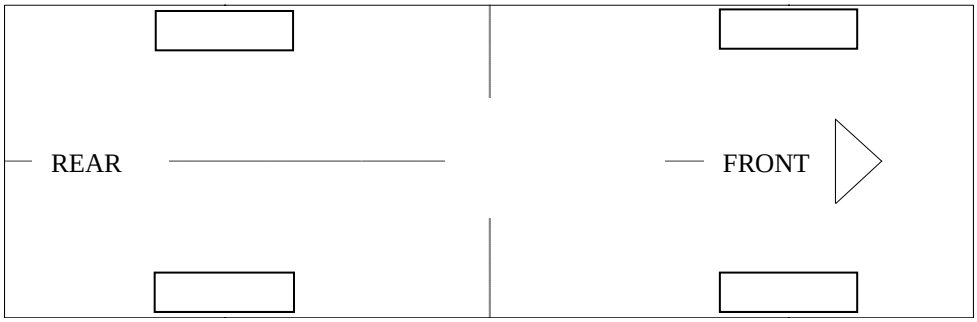
Photo 5 shows a general view of the front left portion of the Motor Van at the time of our inspection. The Motor Van was observed to be in good condition unaffected by the accident's impact.

Photo 6 shows a general view of the Motor Van's rear body at the time of our inspection. There was no damage found which relates to the accident on the rear portion of the Motor Van.

Tyres and Wheel Rims

7. The 4 tyres 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 4 tyres. The tyre brand, tyre size and remaining tread depth of the 4 tyres of the Motor Van were recorded as follows:-

Falken Linam R51X 185R14C (2mm) Delium Power Saver 185R14C (5mm)



Falken Linam R51X 185R14C (2mm) Delium Power Saver 185R14C (5mm)

8. The 4 tyres were observed to be wrapped around a standard steel wheel rims. There was no significant damage observed on all wheel rims. See photo 7 – 10 below.

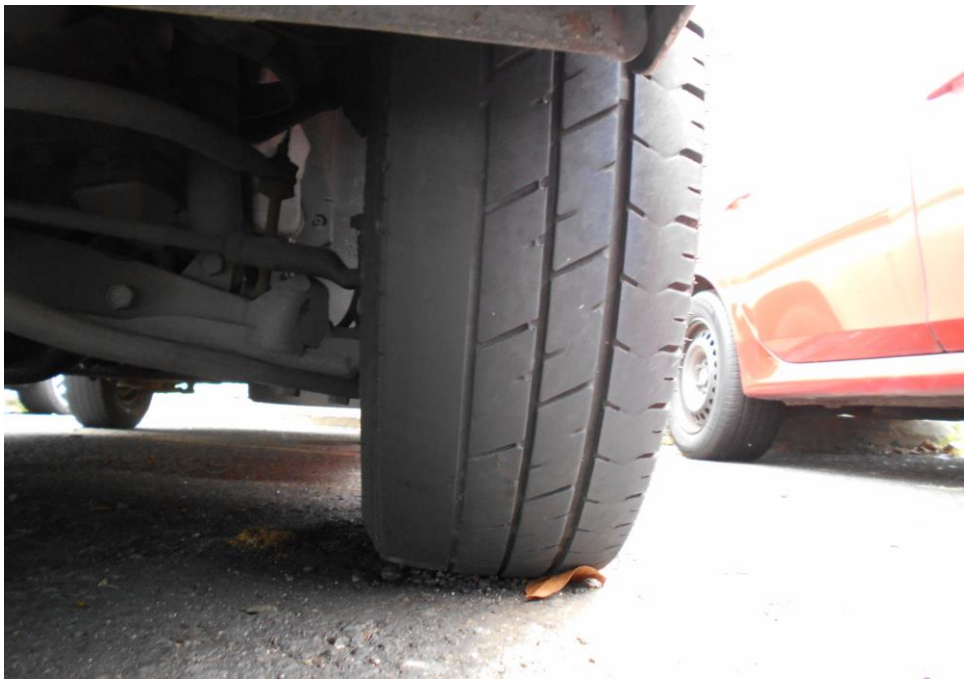


Photo 7 shows the condition of the front left tyre of the Motor Van, which was observed to be in serviceable condition with remaining tread depth of approximately 5mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

Photo 8 shows the condition of the front right tyre of the Motor Van, which was 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.

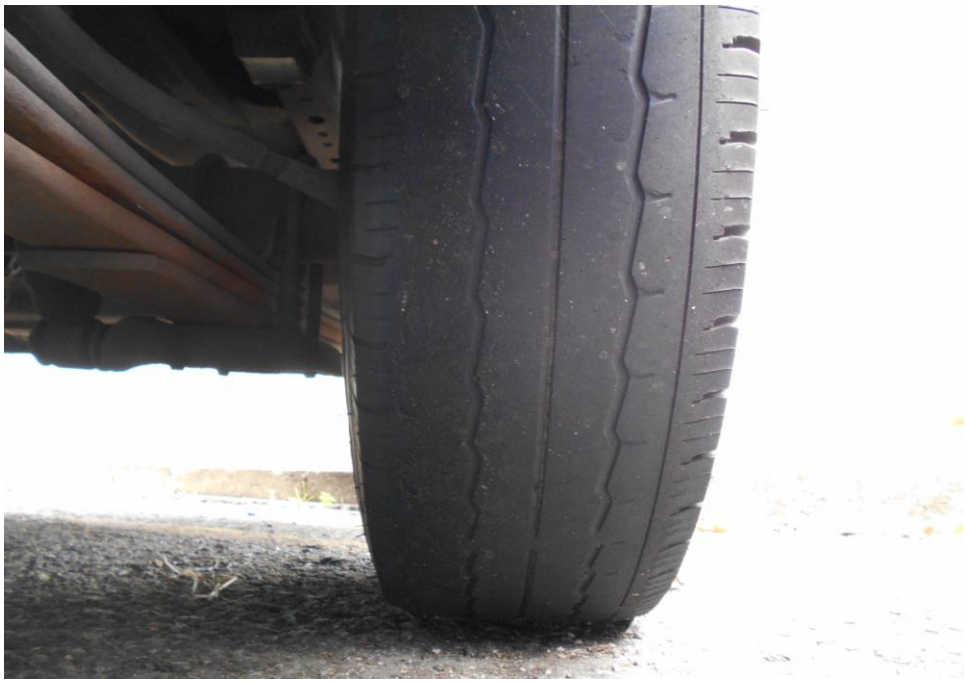


Photo 9 shows the condition of the rear left tyres of the Motor Van, which was observed to be in serviceable condition with remaining tread depth of approximately 2mm. The tyres, which were wrapped around standard alloy wheel rim, were also observed to be sufficiently inflated for vehicular operation.

Photo 10 shows the condition of the rear right tyres of the Motor Van, which were observed to be in serviceable condition with remaining, tread depth of approximately 2mm.

Engine Compartment & Operating Fluids

9. Upon examination of the Motor Van's engine compartment, we had observed that all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid, engine oil, power steering fluid and engine coolant were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.

10. 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 Van.

11. Our subsequent checks on the underside of the Motor Van also revealed no sign of fluid stain. Visually, the various undercarriage components of the Motor Van were all observed to be intact and without any visible damage. See photo 11 – 15 below.

Photo 11 shows a general view of the Motor Van's engine compartment, which was accessed by lifting the front passenger seat of the Motor Van. The various parts and components inside the engine compartment were unaffected by the accident. There was also no sign(s) or indication(s) of fresh fluid leakage and/or fluid stain within the engine.

Photo 12 shows the engine coolant tank of the Motor Van at the time of our inspection. The engine coolant was observed to be of sufficient level and without any visible contamination (arrowed).

Photo 13 shows the engine dip stick of the Motor Van at the time of our inspection. The engine oil was observed to be of sufficient level and without any visible contamination (circled).

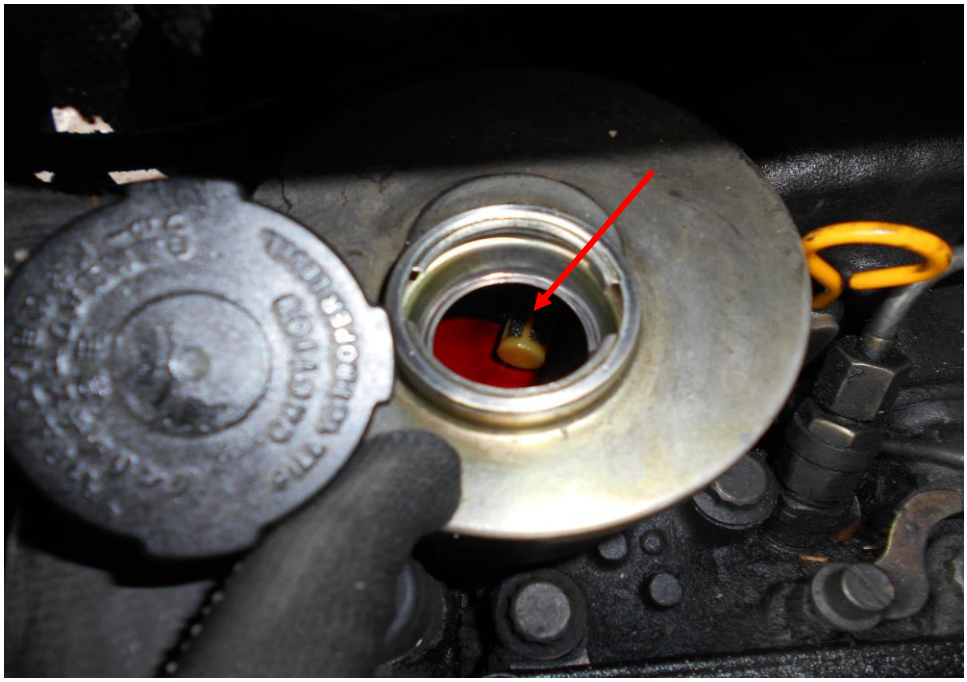


Photo 14 shows the power steering fluid of the Motor Van at the time of our inspection. The fluid was observed to be of sufficient level and without any visible contamination.

Photo 15 shows the brake fluid of the Motor Van at the time of our inspection. The fluid was observed to be of sufficient level and without any visible contamination.

Steering System & Braking System

12. The mechanical components of the Motor Van's steering system were all found to be visually intact and undamaged. The steering wheel, steering column, steering rack and ball joints of the Motor Van were observed to be intact and securely attached to the front left wheel and front right wheel.

13. Although the steering system could not be tested at the time of our inspection (engine unable to be started likely due to the accident), it was likely that the steering system of the Motor Van was in serviceable condition at the material time of accident since its mechanical components were all found to be generally intact and securely fitted. See photo 16 & 17 below.

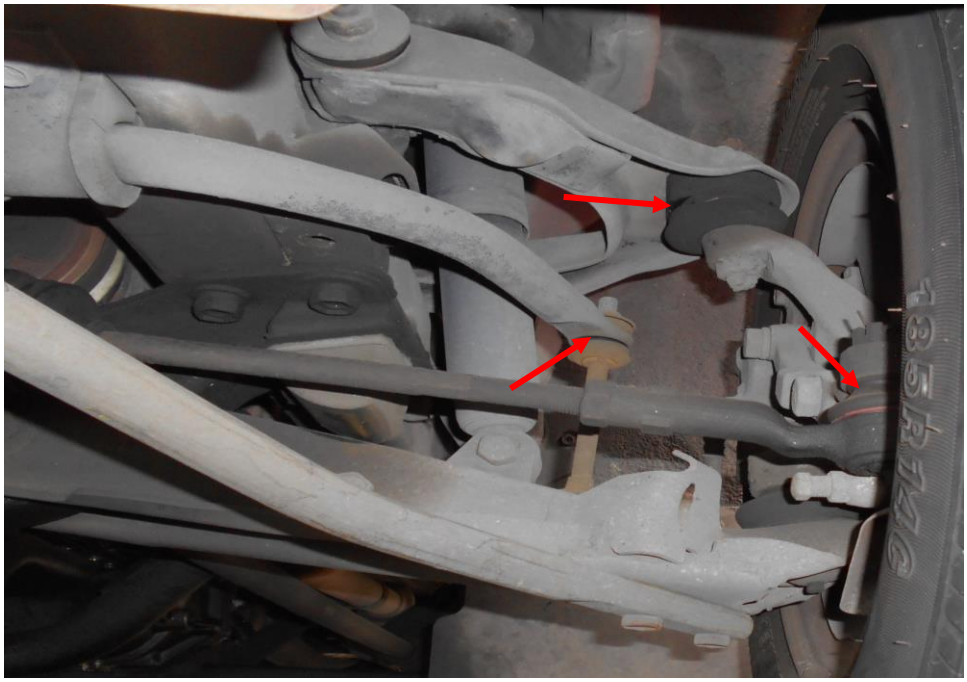


Photo 16 shows the various undercarriage components at the front left wheel of the Motor Van, in particular the steering tie rod end (arrowed). The various undercarriage components of the Motor Van were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Photo 17 shows the various undercarriage components at the front right wheel of the Motor Van, in particular the steering tie rod end (arrowed). The various undercarriage components of the Motor Van 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 was unable to be conducted on the Motor Van due to the engine could not be started likely due to the accident at time of inspection. However, visual inspection had suggested that there was no internal leakage of pressure/vacuum in the braking system of the Motor Van 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. The braking system of the Motor Van was likely to be in serviceable condition at the material time

15. Checks on the brake shoes (brake pads) at the rear wheels of the Motor Van revealed that the brake shoes (brake pads) were in serviceable condition with sufficient frictional material for operational purposes. In general, our visual inspection of the mechanical components of the Motor Van's braking system appear to suggest that its braking system was in serviceable condition at the material time of accident. See photo 18 & 19 below.

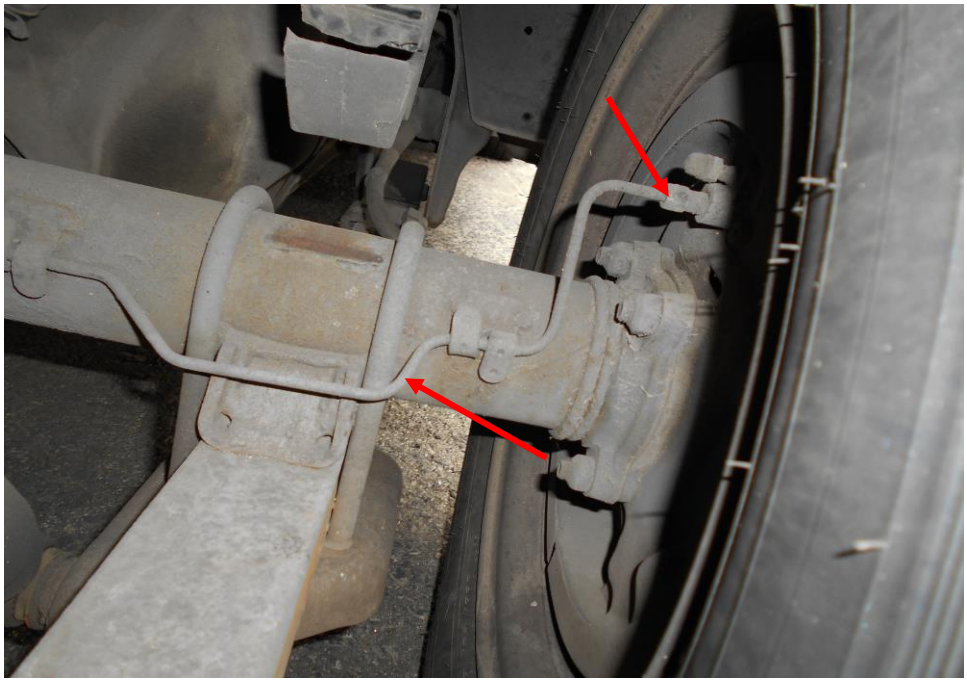


Photo 18 shows the various undercarriage components at the rear right wheels of the Motor Van. There was no sign(s) of brake fluid leakage along the brake hoses and brake pipes.

Photo 19 shows the various undercarriage components at the rear left wheels of the Motor Lorry. There was no sign(s) of brake fluid leakage along the brake hoses and brake pipes.

Electronic Safety / Warning Indicators

16. The Motor Van was not fitted with any electronic safety feature(s) like Anti-Brake Lock System (ABS), Supplemental Restraint System (SRS) etc. There was hence no test carried out on the functionality of these systems.

Operational Behaviour of the Motor Lorry

17. We were also not able to carry out any operational test to primarily determine whether there was any operational abnormality to the engine system, transmission system, steering system and braking system of the Motor Van due to the engine couldn't be started likely due to the accident.

Conclusion

18. At the time of our inspection of the Motor Van, its steering system and braking system could not be tested as the Motor Van's engine could not be started likely due to the accident. However basing purely on our observations, it would appear that the steering system and braking system of the Motor Van were in serviceable condition. This is taking into consideration that all the various mechanical components were found to be intact and undamaged.

19. The observations gathered from our physical inspection of the Motor Van had indicated no evidence to suggest possible mechanical failure to the Motor Van that may have contributed to the accident.

20. The 4 tyres of the Motor Van were also found to be in serviceable condition. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres. The 4 tyres were sufficiently inflated for vehicular operation with remaining tread depth of approximately 2mm to 5mm each.

21. Our findings were based solely on a static and visual inspection of the Motor Van. No operational test could be carried out to the Motor Lorry due to it was unable to be started at time of inspection.

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