

Your Ref: TP/IP/15079/2021
Our Ref : CI/TPD21005748/P

5th July 2021

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR TRAILER, JPL 6977

1. I refer to your request on 11th May 2021 to conduct a visual inspection of a Motor Trailer bearing registration number JPL 6977 (herein referred to as "**Motor Trailer**"), which was involved in a road traffic accident on 24th March 2021.
2. The objective of this inspection is to determine if there was any possible mechanical failure to the Trailer that may have contributed to the accident.
3. Following the request, I had carried out a visual inspection of the Trailer on 2nd July 2021 at the premises of Traffic Police vehicle pound, 517 Airport Road Singapore 539942. I now set out below my observations and comments with respect to this inspection.

General Condition

4. The mileage of the Motor Trailer at the time of my inspection was not recorded, as the Motor Trailer was not started up.
5. There was no visible damage observed on Motor Trailer at the time of my inspection.

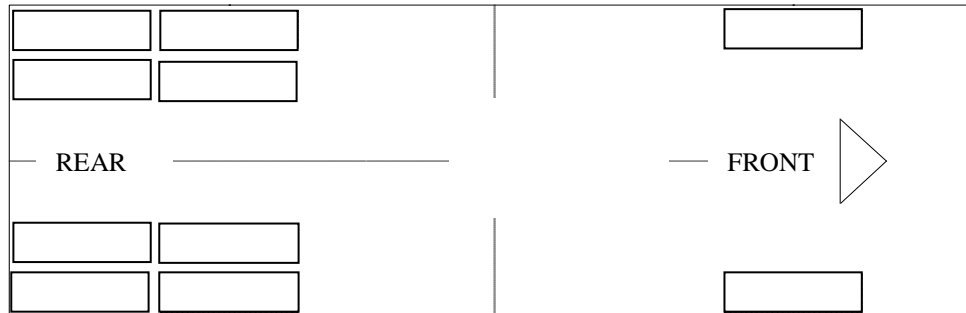
Tyres and Wheel Rims

6. The 2 front tyres and 8 rear tyres of the Motor Trailer and 8 tyres of the Trailer 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 10 tyres of the Motor Trailer and the 12 tyres of the Trailer. The tyre brand, tyre size and remaining tread depth of the 10 tyres of the Motor Trailer and 12 tyres of the Trailer were recorded as follows:-

Motor Trailer

Jian 295/80R22.5 (6.3mm)

Jian 295/80R22.5 (13.1mm)

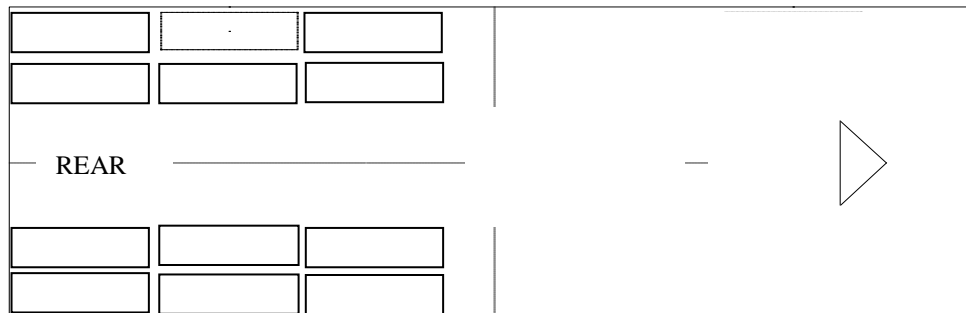


Maxxis 295/80R22.5 (10.8mm)

Jian 295/80R22.5 (8.9mm)

Trailer

Three-A 295/80R22.5 (13.9mm)



Maxxis 295/80R22.5 (10.6mm)

7. The 10 tyres of the Motor Trailer and 12 tyres of the Trailer were observed to be wrapped around standard steel wheel rims that were found to be without any damage. See photo 1 – 14 below.



Photo 1 shows a general view of the front body of the Motor Trailer at the time of my inspection. The Motor Trailer was observed to be intact and unaffected by the accident.



Photo 2 shows a general view of the right body of the Motor Trailer at the time of my inspection. The Motor Trailer was observed to be intact and unaffected by the accident.

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Photo 3 shows a general view of the left body of the Motor Trailer at the time of my inspection. The Motor Trailer was observed to be intact and unaffected by the accident.



Photo 4 shows a general view of the Motor Trailer's rear body at the time of my inspection. The Motor Trailer was observed to be intact and unaffected by the accident.



Photo 5 shows a general view of the Trailer front body at the time of my inspection. The Trailer was observed to be intact.



Photo 6 shows a general view of the rear body at the time of my inspection. The Trailer was observed to be intact and unaffected by the accident.



Photo 7 shows a general view of the Trailer left body at the time of my inspection. The Trailer was observed to be intact and unaffected by the accident.



Photo 8 shows a general view of the Trailer right body at the time of my inspection. The Trailer was observed to be intact and unaffected by the accident.



Photo 9 shows the condition of the front right tyre of the Motor Trailer, which was observed to be in serviceable condition with remaining tread depth of approximately .8.9 mm. The tyre, which was wrapped around standard steel wheel rim, was also observed to be sufficiently inflated for vehicular operation. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 10 tyres that were fitted on the Motor Trailer.

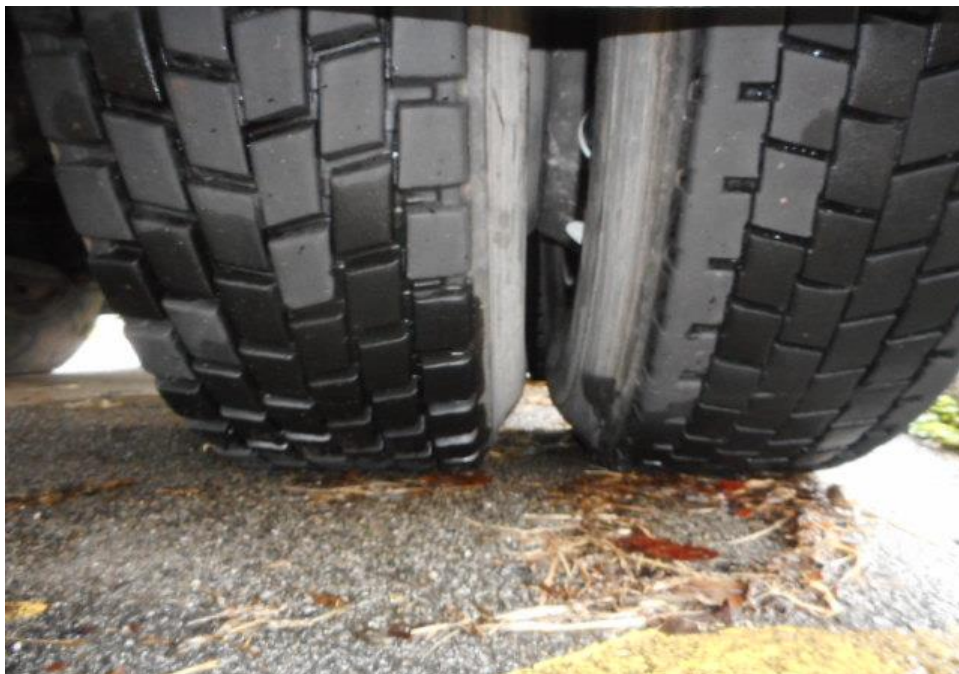


Photo 10 shows the condition of the rear right tyre of the Motor Trailer, which was observed to be in serviceable condition with remaining tread depth of approximately 10.8mm. The tyre, which was wrapped around standard steel wheel rim, was also observed to be sufficiently inflated for vehicular operation.



Photo 11 shows the condition of the rear left tyres of the Motor Trailer, which was observed to be in serviceable condition with remaining tread depth of approximately 6.3mm. The tyres, which were wrapped around standard steel wheel rim, were also observed to be sufficiently inflated for vehicular operation. There was also no damage found on all 10 steel wheel rims of the Trailer.



Photo 12 shows the condition of the front left tyres of the Motor Trailer, which were observed to be in serviceable condition with remaining tread depth of approximately 13.1mm. 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 10 tyres that were fitted on the Trailer.

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Photo 13 shows the condition of the right tyres of the Trailer, which was observed to be in serviceable condition with remaining tread depth of approximately 10.6mm. The tyre, which was wrapped around standard steel wheel rim, was also observed to be sufficiently inflated for vehicular operation.

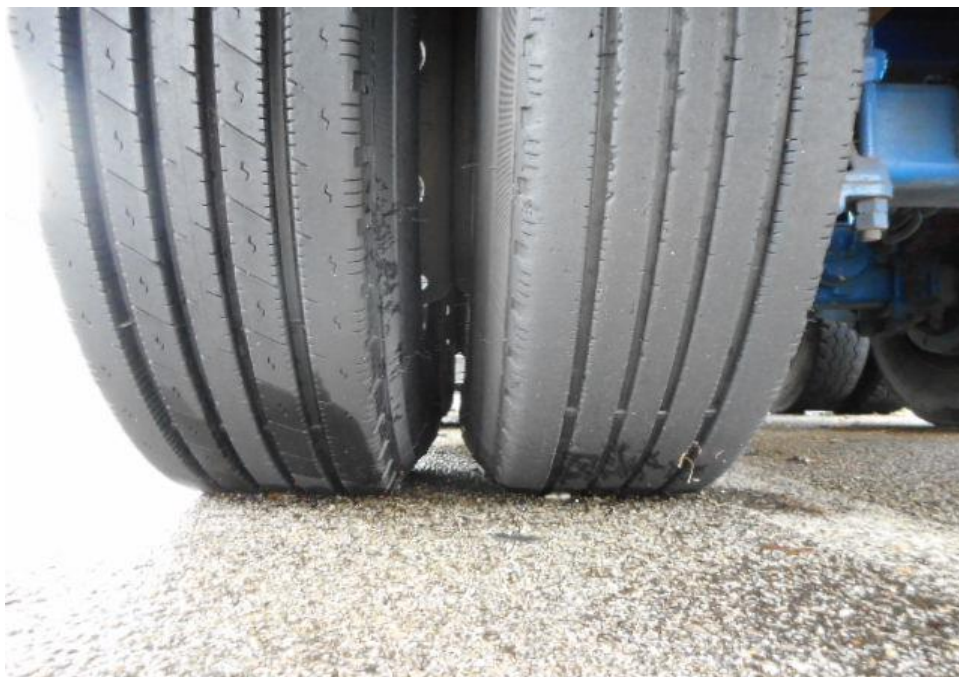


Photo 14 shows the condition of the left tyres of the Trailer, which was observed to be in serviceable condition with remaining tread depth of approximately 13.9mm. The tyres, which were wrapped around standard steel wheel rim, were also observed to be sufficiently inflated for vehicular operation. There was also no damage found on all 12 steel wheel rims of the Trailer.

Engine Compartment & Operating Fluids

8. The engine compartment of the Motor Trailer was located below the front cabin of the Trailer. I was not able to carry out any checks on the engine compartment as the cabin of the Motor Trailer was not able to be lifted to the engine compartment as it requires the battery powered. The various operating fluids were also not able to be checked.

Steering System & Braking System

9. Static brake and steering tests was unable to be conducted on the Motor Trailer as this components requires the engine to be started. However, my visual examination of the braking and steering components, there was no sign(s) of air leakage along the brake hoses, brake pipes, air cylinders and 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 15 - 22 below.



Photo 15 shows the brake pipe (arrowed) at the rear right wheel of the Motor Trailer. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Trailer. My visual examination of the various mechanical components in the braking system, had indicated that there was no internal leakage of pressure/vacuum and there components were generally in good condition.



Photo 16 shows the brake pipe (arrowed) at the rear left wheel of the Motor Trailer. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Trailer. My static tests of the Motor Trailer'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 and there components were generally in good condition.



Photo 17 shows the brake pipe (arrowed) at the front right wheel of the Motor Trailer. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Trailer. My static tests of the Motor Trailer'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 and there components were generally in good condition.

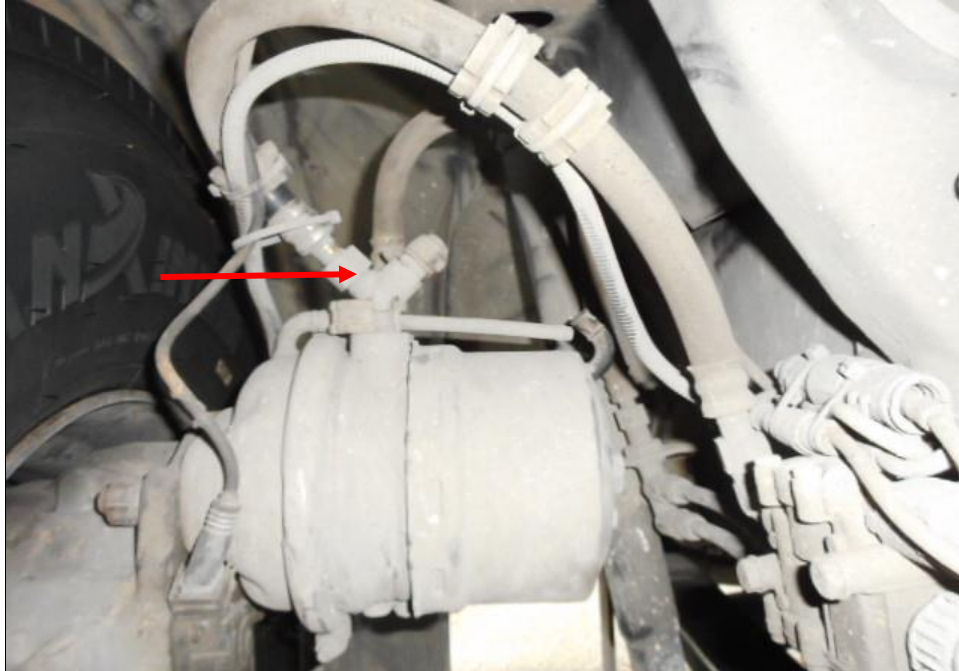


Photo 18 shows the brake pipe (arrowed) at the front left wheel of the Motor Trailer. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Trailer. My visual examination of the various mechanical components in the braking system had indicated that there was no internal leakage of pressure/vacuum and there components were generally in good condition.

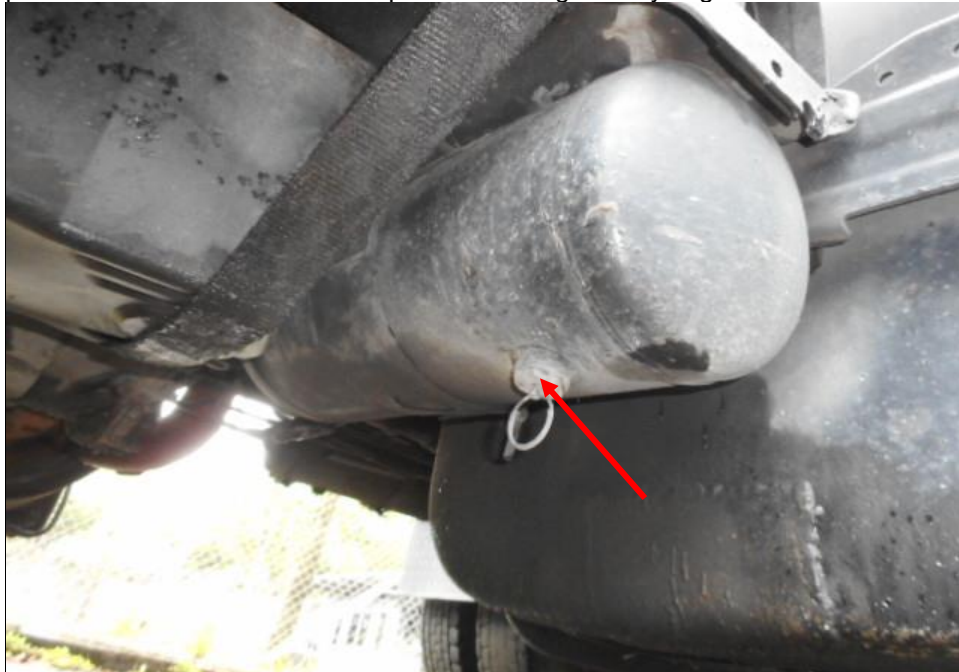


Photo 19 shows the air brake cylinders (arrowed) at the undercarriage of the Motor Trailer. I did not observe any leakage of air brake fluid at the time of my inspection of the Motor Trailer. My visual examination of the various mechanical components in the braking system had indicated that there was no internal leakage of pressure/vacuum and there components were generally in good condition.



Photo 20 shows the various undercarriage components at the front right wheel of the Motor Trailer, 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 Trailer 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 Trailer, in particular the steering tie rod end (arrowed). The various undercarriage components of the Motor Trailer 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 steering box component (arrowed) at the undercarriage of the Motor Trailer was 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

10. The Motor Trailer automatic self-test of the functionality of its various electronic operating systems was not conducted as the Motor Trailer was not started up.

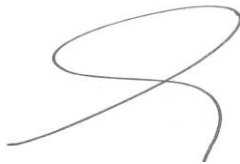
Operational Behaviour of the Trailer

11. As the engine of the Motor Trailer was not be started, I was hence not able to carry out any operational test(s) to primarily determine whether there was any operational abnormality to its engine system, transmission system, steering system and braking system.

Conclusion

12. In this particular case, the time of my inspection of the Motor Trailer, its steering system and braking system could not be tested as the Motor Trailer's engine could not be started. However basing on my observations, it would appear that the steering system and braking system of the Motor Trailer were in serviceable condition. This takes into consideration that the various mechanical components of the steering system and braking system were found to be intact and undamaged.

13. The observation gathered from my physical inspection of the Motor Trailer had indicated no evidence to suggest possible mechanical failure to the Trailer that may have contributed to the accident.
14. The 2 front tyres, 8 rear tyres fitted on the Motor Trailer and the 12 tyres of the Trailer 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 Motor Trailer 10 tyres and the 12 tyres of the Trailer. The 10 tyres of the Motor Trailer and the 12 tyres of the Trailer were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 6.3mm – 13.1mm. & 10.6mm – 13.9mm.
15. My findings were based solely on a static and visual inspection of the Motor Trailer. No operational test(s) could be carried out to the Motor Trailer, as its engine was not started at the time of my inspection.

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