

Your Ref: TP/IP/24847/2021  
Our Ref : CI/TPD21007277/P

20<sup>th</sup> September 2021

**General Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF POLICE TRUCK, YQ 2025E**

1. I refer to your request on 30<sup>th</sup> June 2021 to conduct a physical inspection of a Police Truck bearing registration number YQ 2025E (herein referred to as "**Police Truck**"), which was involved in a road traffic accident on 19<sup>th</sup> May 2021.
2. The objective of this inspection is to determine if there was any possible mechanical failure to the Police Truck that may have contributed to the accident.
3. Following the request, I had carried out a physical inspection of the Police Truck on 20<sup>th</sup> September 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 Police Truck at the time of my inspection was 5,899km.
5. The Police Truck was observed to sustain damaged on its right portion. Its right body panel was damaged at the time of my inspection.

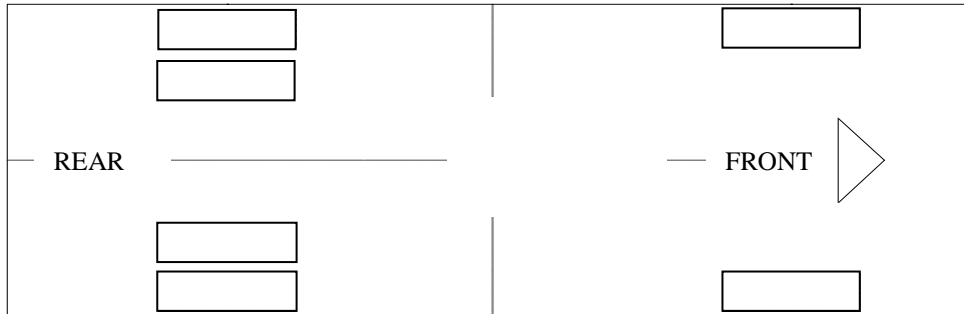
**Tyres and Wheel Rims**

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

### Police Truck

Goodyear 275/70 R22.5 (14.2mm)

Goodyear 275/70 R22.5 (14.7mm)



Goodyear 275/70 R22.5 (14.5mm)

Goodyear 275/70 R22.5 (14.1mm)

7. The 6 tyres of the Police Truck were observed to be wrapped around standard steel wheel rims that were found to be without any damage. See photo 1 – 12 below.



**Photo 1** shows a general view of the instrument cluster of the Police Truck at the time of my inspection. The mileage of the Police Truck was 5,899km

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**Photo 2** shows a general view of the front body of the Police Truck at the time of my inspection. The Police Truck was observed to be intact and unaffected by the accident.



**Photo 3** shows a general view of the front right body of the Police Truck at the time of my inspection. It appeared to have sustained damage at its right portion. Its right body panel were damage at the time of my inspection as a result of the accident.

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**Photo 4** shows a close up view of the Motor Lorry's right portion at the time of my inspection. It appeared to have sustained damage at its right portion. Its right body panel (circled) were damage at the time of my inspection as a result of the accident.



**Photo 5** shows a close up view of the Motor Lorry's right portion at the time of my inspection. It appeared to have sustained damage at its right portion. Its right body panel (circled) were damage at the time of my inspection as a result of the accident.



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**Photo 6** shows a close up view of the Motor Lorry's right portion at the time of my inspection. It appeared to have sustained damage at its right portion. Its right body panel (circled) were damage at the time of my inspection as a result of the accident.



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

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**Photo 8** shows a general view of the Police Truck's rear body at the time of my inspection. The Police Truck was observed to be intact and unaffected by the accident.



**Photo 9** shows the condition of the front right tyre of the Police Truck, which was observed to be in serviceable condition with remaining tread depth of approximately 14.1mm. 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 6 tyres that were fitted on the Police Truck.

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**Photo 10** shows the condition of the rear right tyre of the Police Truck, which was observed to be in serviceable condition with remaining tread depth of approximately 14.5mm. 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 Police Truck, which was observed to be in serviceable condition with remaining tread depth of approximately 14.2mm. 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 6 steel wheel rims of the Police Truck.





**Photo 12** shows the condition of the front left tyres of the Police Truck, which were observed to be in serviceable condition with remaining tread depth of approximately 14.7mm. 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 6 tyres that were fitted on the Police Truck.

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

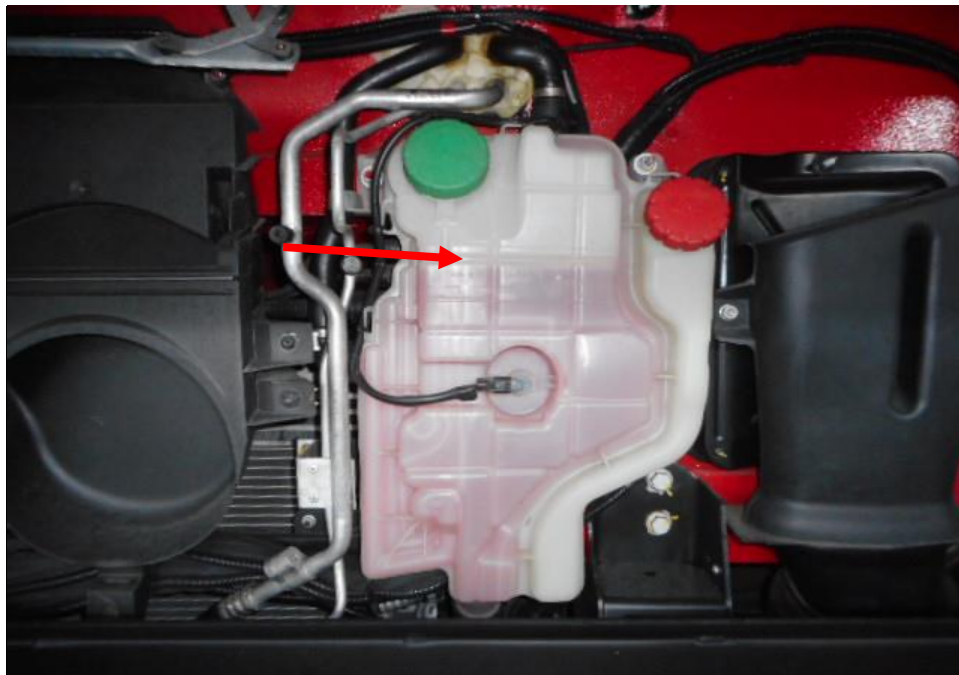
8. Upon examination, I have observed that the engine oil, the air brake cylinder, and engine coolant were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.
9. My subsequent checks on the underside of the Police Truck also revealed no fluid stain. Visually, the various undercarriage components of the Police Truck were all observed to be intact and without any visible damage. See photo 13 – 16 below.



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**Photo 13** shows the air in the air brake cylinders of the Police Truck at the time of my inspection. The air in the cylinder was observed to be of sufficient level & serviceable at the time of the accident.

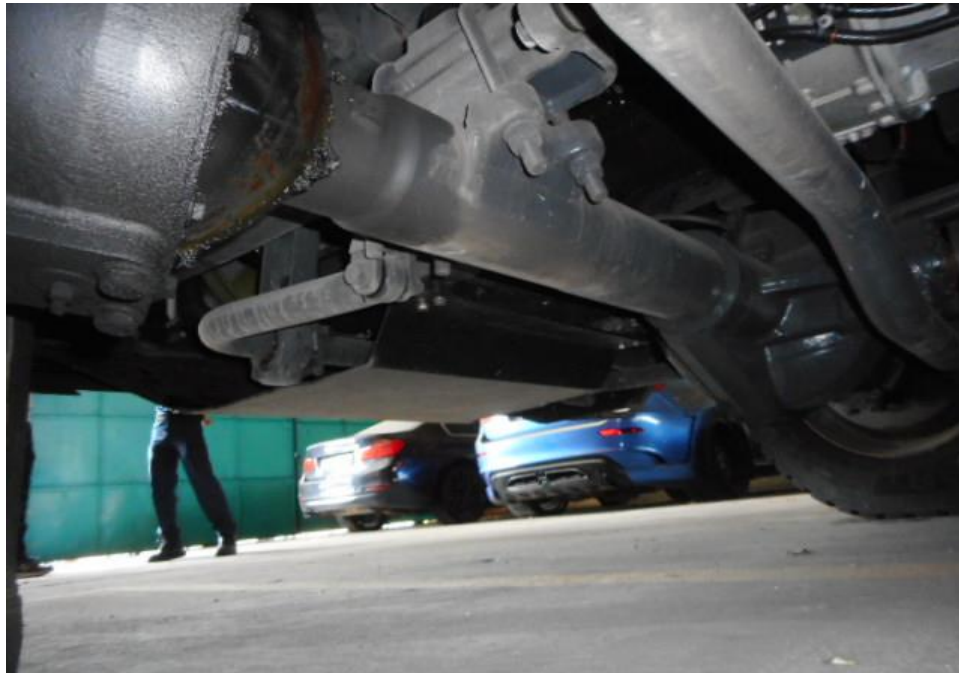


**Photo 14** shows the engine coolant reservoir of the Police Truck at the time of my inspection. The engine coolant was observed to be of sufficient level (arrowed) and without any visible contamination.

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**Photo 15** shows the engine oil display of the Police Truck at the time of my inspection. The engine oil was observed to be of sufficient level at the time of our inspection.



**Photo 16** shows the undercarriage of the Police Truck, at the area where the engine housing located. I did not find any sign(s) or indication(s) of fluid leak or fluid stain(s) on the underside of the Police Truck.

## Steering System & Braking System

10. Static brake tests conducted on the Police Truck revealed no abnormality. The air 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 Police Truck. The braking system of the Police Truck was likely to be in serviceable condition at the material time. This was also taking into consideration that the air brake was of sufficient level, and also that there was no sign(s) of air leakage along the brake hoses, brake pipes and air cylinders.
11. Static test on the steering system of the Police Truck also revealed no abnormality to the steering system. I did not experience any abnormal free play and/or other resistance when turning the steering wheel left and right to full lock positions. My 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 17 - 25 below.



**Photo 17** shows the brake pipe (arrowed) at the rear right wheel of the Police Truck. I did not observe any leakage of brake fluid at the time of my inspection of the Police Truck. My static tests of the Police Truck'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. Hence the braking system of the Police Truck was likely to be in serviceable condition at the material time of accident.





**Photo 18** shows the brake pipe (arrowed) at the rear left wheel of the Police Truck. I did not observe any leakage of brake fluid at the time of my inspection of the Police Truck. My static tests of the Police Truck'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. Hence the braking system of the Police Truck was likely to be in serviceable condition at the material time of accident.



**Photo 19** shows the brake pipe (arrowed) at the front right wheel of the Police Truck. I did not observe any leakage of brake fluid at the time of my inspection of the Police Truck. My static tests of the Police Truck'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. Hence the braking system of the Police Truck was likely to be in serviceable condition at the material time of accident.



**Photo 20** shows the brake pipe (arrowed) at the front left wheel of the Police Truck. I did not observe any leakage of brake fluid at the time of my inspection of the Police Truck. My static tests of the Police Truck'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. Hence the braking system of the Police Truck was likely to be in serviceable condition at the material time of accident.



**Photo 21** shows the air brake cylinders (arrowed) at the undercarriage of the Police Truck. I did not observe any leakage of air brake fluid at the time of my inspection of the Police Truck. My static tests of the Police Truck'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. Hence the braking system of the Police Truck was likely to be in serviceable condition at the material time of accident.



**Photo 22** shows the various undercarriage components at the front right wheel of the Police Truck, 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 Police Truck 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 23** shows the various undercarriage components at the front left wheel of the Police Truck, in particular the steering tie rod end (arrowed). The various undercarriage components of the Police Truck 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.



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**Photo 24** shows the steering box component (arrowed) at the undercarriage of the Police Truck was found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.



**Photo 25** shows the front right wheel of the Police Truck turned to its full left. During my steering system test, I did not experience any abnormal free play and/or resistance when I had turned the steering wheel towards full left and full right. This would suggest that the steering system of the Police Truck was likely to be in serviceable condition at the material time of accident.

## Electronic Safety / Warning Indicators

12. The Police Truck's automatic self-test of the functionality of its electronic operating systems like the Anti-Lock Brake System (ABS) during cranking of the engine had indicated that the system were in working condition and without abnormality. This can be established from the warning lights disappearing from the instrument panel after the self-test. See photo 26 & 27 below.



**Photo 26** shows the warning light for Anti-Lock Brake System (ABS) (arrowed) appearing on the instrument panel of the Police Truck during the self-test of its various electronic operating systems when its engine was cranked.



**Photo 27** shows no warning lights illuminated on the instrument panel of the Police Truck after the engine was cranked. This would suggest that there was no abnormality to the electronic operating system of the Police Truck, like the ABS and etc.

### **Seat Belts**

13. The Front right and front left seat belts of the “Police Truck” were tested and all the seat belts were able to be fastened securely into the respective pretensioners that were fitted at the sides of each seat.

### **Operational Behaviour of the Police Truck**

14. A short operational test to the Police Truck, to primarily determine whether there was any abnormality to its various operating systems like its engine system, its transmission system, steering system and braking system was subsequently carried out. The test was conducted by driving the Police Truck forward, stopping, before reversing and coming to a stop again.
15. During the operational test, the various transmission gears of the Police Truck were able to be engaged without any difficulty by stepping on the clutch pedal and manually shifting the gear lever. There were no abnormal sounds heard and/or abnormal behaviour of the Police Truck’s engine system. It was able to move forward and backward normally. The braking system was also found to be in working condition as the Police Truck was able to slow down and come to a complete stop upon depressing of the brake pedal. See photo 2 & 25.



## Conclusion

16. From my physical inspection of the Police Truck, it appears that its engine system, steering system, braking system and transmission system were all in serviceable condition. I did not find any evidence(s) to suggest that there was possible mechanical failure to the Police Truck that may have caused and/or contributed to the accident. This is also taking into consideration that the operational test of the Police Truck, which I had conducted, did not produce any sign(s) or symptom(s) to suggest that there was any abnormality to its various operating systems.
17. The 2 front tyres, 4 rear tyres fitted on the Police Truck 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 Police Truck 6 tyres. The 6 tyres of the Police Truck were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 14.1mm – 14.7mm.



**Sherwin Beh**

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