



Your Ref: TP/IP/40617/2018
Our Ref : CI/TPD18014209/Z

04th October 2018

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SDV 234D

1. We refer to your request on 02nd August 2018 to conduct a physical inspection of a motor Car bearing registration number SDV 234D (herein referred to as "**Motor Car**"), which was involved in a fatal road traffic accident on 17th July 2018.
2. The objective of the inspection is to determine if there was any possible mechanical failure to the Motor Car that may have contributed to the accident.
3. Following the request, we had carried out a physical inspection of the Motor Car on 30th August 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 Car at the time of our inspection was recorded at 110513km.
5. The Motor Car had sustained a relatively minor impact damages that was confined to its frontal portion. Its front left bonnet was corrugated & its shattered windshield was observed to be affected likely due to the accident.
6. This was likely due to the consistency of the accident's case facts that on 17th July 2018 at or about 0658hrs, Motor Car (SDV 234D) driver was driving his Motor Car along Crawford Street towards Republic Avenue on the right lane of 2 lanes road when after the pedestrian crossing, his front left portion collided onto a pedestrian whom had crossed from his right to left. See photo 1 to 7 below.



Photo 1 shows the mileage of the Motor Car at the time of our inspection was recorded at 110513km.



Photo 2 shows a general view of the front body of the Motor Car at the time of our inspection. The Motor Car was observed to have sustained a relatively minor impact damages that was confined to its frontal portion. Its front left bonnet was corrugated & its shattered windshield was observed to be affected likely due to the accident.



Photo 3 shows a general view of the front left body of the Motor Car at the time of our inspection. The Motor Car was observed to have sustained a relatively minor impact damages that was confined to its frontal portion. Its front left bonnet was corrugated & its shattered windshield was observed to be affected likely due to the accident.



Photo 4 shows a general view of the front right body of the Motor Car at the time of our inspection. The Motor Car was observed to be in good condition.



Photo 5 shows a general view of the rear body of the Motor Car at the time of our inspection. The Motor Car was observed to be in good general condition.



Photo 6 shows a close up view of the front left portion of the Motor Car at the time of our inspection. The Motor Car had sustained relatively minor damages at the front left bonnet of the Motor Car.



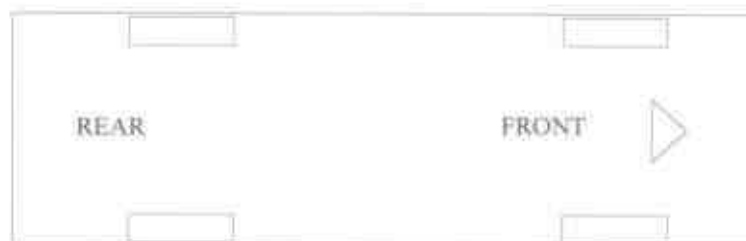
Photo 7 shows a close up view of the front left portion of the Motor Car at the time of our inspection. The Motor Car had sustained shattering cracked at the front left portion of the Motor Car.

Tyres and Wheel Rims

7. The condition of the Motor Car's 4 tyres was observed 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 4 tyres. The 4 tyres were also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the 4 tyres was approximately between 4mm to 6mm. The tyre brand, tyre size and remaining tread depth of the 4 tyres were recorded as follows:-

Michelin 265/35 ZR19 (4mm)

Good Year 235/35 R19 (6mm)



Michelin 265/35 ZR19 (4mm)

Good Year 235/35 R19 (6mm)

8. The 4 tyres were observed to be wrapped around alloy wheel rims that were found to be without any significant damage. See photo 8 to 11 below.



Photo 8 shows the condition of the front right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 6mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.



Photo 9 shows the condition of the front left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 6mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.



Photo 10 shows the condition of the rear left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4mm.



Photo 11 shows the condition of the rear right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4mm.

Engine Compartment & Operating Fluids

9. Upon examination of the engine compartment of the Motor Car, we had observed all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid, engine oil, 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 investigation of the engine compartment revealed no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment of the Motor Car.
11. Our subsequent checks on the underside of the Motor Car revealed that the various undercarriage components of the Motor Car were all observed to be intact and without any visible damage. See photo 12 to 16 below.



Photo 12 shows a general view of the Motor Car's engine compartment. 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 compartment.



Photo 13 shows the brake fluid reservoir of the Motor Car at the time of our inspection. The brake fluid was observed to be of sufficient level (arrowed) and without any visible contamination.



Photo 14 shows the engine coolant fluid reservoir of the Motor Car at the time of our inspection. The engine coolant fluid was observed to be of sufficient level and without any visible contamination.



Photo 15 shows the steering fluid reservoir of the Motor Car at the time of our inspection. It was observed to be of sufficient level and without any visible contamination.



Photo 16 shows the engine fluid indication on the system of the Motor Car at the time of our inspection. The engine oil was observed to be of sufficient level from the system reading.

Steering System & Braking System

12. The mechanical components of the Motor Car's steering system and braking system were all found to be visually intact and undamaged. Our visual examination of the various steering components, which had included the rack and pinion, tie rods, tie rod ends and ball joints, revealed that these components were all generally in good condition. Components of the braking system like the brake master pump, brake booster, brake callipers and brake hoses amongst others were also found to be without any damage upon our visual inspection.
13. Static test on the steering system of the Motor Car also revealed no abnormality to the steering system. We did not experience any abnormal free play and/or other resistance when turning the steering wheel left and right to full lock positions. Our visual examination of the various steering components which had included the steering rack and pinion, tie rods, tie rod ends and ball joints revealed that these components were all generally in good condition. See photo 17 - 20 below.



Photo 17 shows the brake hose (arrowed) at the rear left wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system revealed all to be intact without visible damage.



Photo 18 shows the brake hose (arrowed) at the rear right wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system revealed all to be intact without visible damage.



Photo 19 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (arrowed). The various steering components were all found to be intact, suggesting that the steering system of the Motor Car was likely to be in serviceable condition.

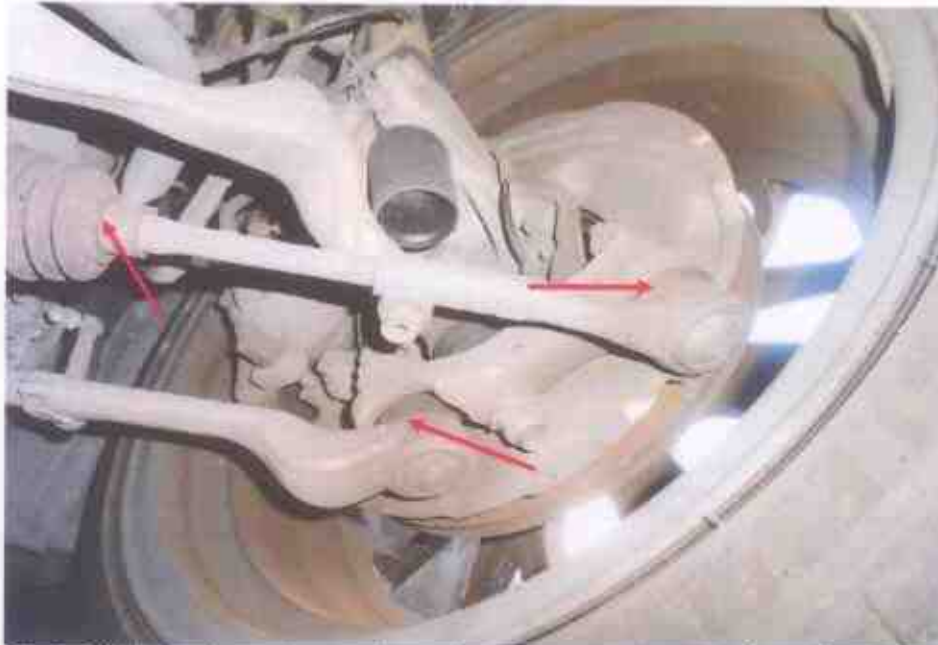


Photo 20 shows the various undercarriage components at the front left wheel of the Motor Car. We did not observe any leakage of brake fluid (arrowed) at the time of our inspection of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.

Electronic Safety / Warning Indicators

14. The Motor Car's automatic self-test of the functionality of its various electronic operating systems like the Anti-Brake Lock System (ABS), parking light, tyre pressure low and Dynamic Traction Control (DTC) during cranking of the engine had indicated that these systems 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 21 & 22 below.



Photo 21 shows the warning lights for the various electronic operating systems of the Motor Car appearing on its instrument panel during the self-test when the engine is cranked, in particular the ABS light.



Photo 22 shows most warning lights disappearing from the instrument panel of the Motor Car after the engine was cranked.

Operational Behaviour of the Motor Taxi

15. A short operational test of the Motor Car, to primarily determine whether there was any abnormality to its engine system, its transmission system and braking system was subsequently carried out successfully.
16. During the operational test, the transmission system of the Motor Car was able to be shifted to drive mode and reverse mode without any difficulty. There were no abnormal sounds heard and/or abnormal behaviour of the Motor Car'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 Motor Car was able to slow down and come to a complete stop upon depressing of the brake pedal. See photo 23 below.



Photo 23 shows we conducted an operational test on the Motor Car. Drive mode, Reverse mode & Neutral mode were engaged at time of our test. Brake pedal was also engaged to a complete stop. There was no abnormality observed at time of testing.

Conclusion

17. From our physical inspection of the Motor Car, it appears that its engine system, transmission system, steering system and braking system were all in serviceable condition. We did not find any evidence(s) to suggest that there was possible mechanical failure to the Motor Car that may have caused and/or contributed to the accident.
18. A short operational test of the Motor Car, which we had conducted, did not produce any sign(s) or symptom(s) to suggest that there was any abnormality to its engine system, its transmission system and braking system.
19. The Motor Car's 4 tyres was observed 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 4 tyres. The 4 tyres were also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the 4 tyres was approximately between 4mm to 6mm.



Rohaizal A. Rahim
Technical Investigator



Ang Bryan Tani
AMSQE, 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.