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You're Ref: TP/IP/20423/2022
Our Ref: CI/TPD22010882/P

13th February 2023

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SBJ 2T

1. I refer to your request on 31st October 2022 to conduct a physical inspection of a Motor Car bearing registration number SBJ 2T (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 3rd August 2022.

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, I had carried out a physical inspection of the Motor Car on 8th February 2023 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 Car at the time of my inspection was not recorded as the engine of the Motor Car was unable to be started up despite multiple attempts in jumpstarting it.

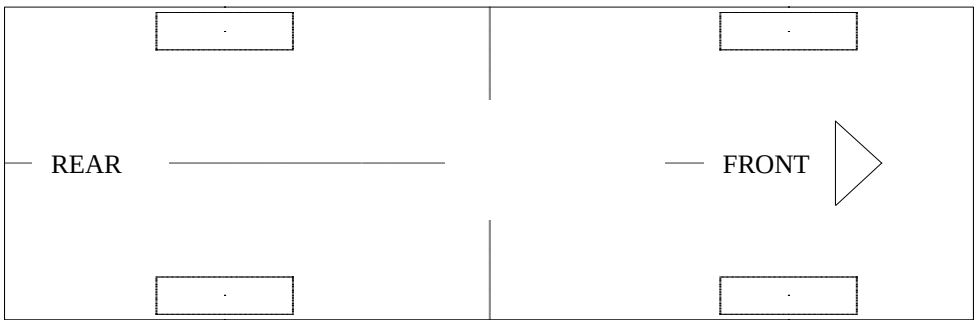
5. The Motor Car was observed to have sustained damage at its front portion. Its front bumper, front right headlamp, front right fender and right rear view mirror was amongst the body parts that were damaged as a result of the accident.

Tyres and Wheel Rims

6. The front right tyre and wheel rim was observed to be cut and damaged as a result of the accident. The condition of the Motor Car's other front left and rear both tyres was observed 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 3 tyres. The 3 tyres were also observed to be sufficiently inflated for vehicular operation. The tyre brand, tyre size and remaining tread depth of the 4 tyres were recorded as follows:-

Dunlop 215/60R16 (4.9mm)

Dunlop 215/60R16 (4.1mm)



Dunlop 215/60R16 (4.6mm)

Dunlop 215/60R16 (3.8mm) (Cut and deflated)

7. The front right tyre and wheel rim was observed to be cut and damaged as result of the accident. The other 3 tyres front left and both left and rear tyres were observed to be wrapped around standard alloy wheel rims that were found to be without any damage. See photo 1 – 12 below.

Photo 1 shows a general view of the Motor Car's front body at the time of my inspection. The Motor Car was observed to have sustained damage at its front portion. Its front bumper, front right headlamp front right fender and right rear view mirror was amongst the body parts that were damaged as a result of the accident.

Photo 2 shows a close up view of the Motor Car's front body at the time of my inspection. The front portion of the Motor Car was observed to have sustained damage. Its front bumper (circled) and front right headlamp (arrowed) was amongst the body parts that were damaged as a result of the accident.

Photo 3 shows a close up view of the Motor Car's front body at the time of my inspection. The front portion of the Motor Car was observed to have sustained damage. Its front right fender (circled) was amongst the body parts that were damaged as a result of the accident.

Photo 4 shows a close up view of the Motor Car's front body at the time of my inspection. The front portion of the Motor Car was observed to have sustained damage. Its front right rear view mirror (circled) was amongst the body parts that were damaged as a result of the accident.

Photo 5 shows a general view of the Motor Car's right body at the time of my inspection. The Motor Car rear was observed to be unaffected by the accident.

Photo 6 shows the general view of the Motor Car's left body at the time of my inspection. The Motor Car rear was observed to be unaffected by the accident.

Photo 7 shows the general view of the Motor Car's rear body at the time of my inspection. The Motor Car rear was observed to be unaffected by the accident.

Photo 8 shows the condition of the front right tyre of the Motor Car, which was observed to be in unserviceable condition with remaining tread depth of approximately 3.8mm. The tyre was also observed to be deflated with cut marks and the wheel rim was also damaged as a result of the accident.

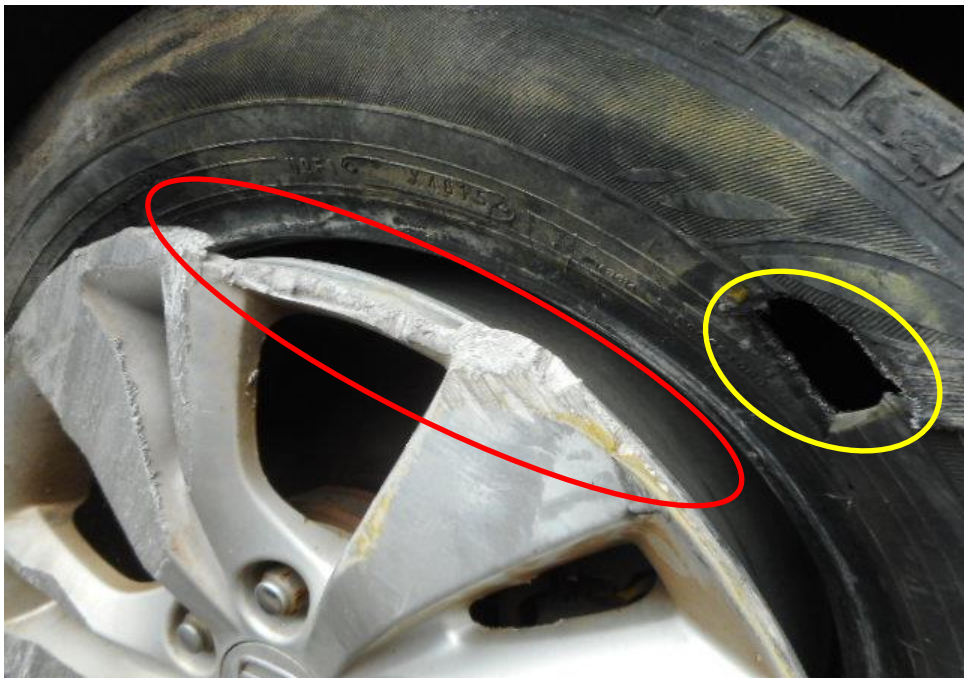


Photo 9 shows the close up condition of the front right tyre of the Motor Car, which was observed to be in unserviceable condition with remaining tread depth of approximately 3.8mm. The tyre was also observed to be deflated with cut marks (yellow circle) and the wheel rim (red circle) was also damaged as a result of the accident.

Photo 10 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 4.6mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

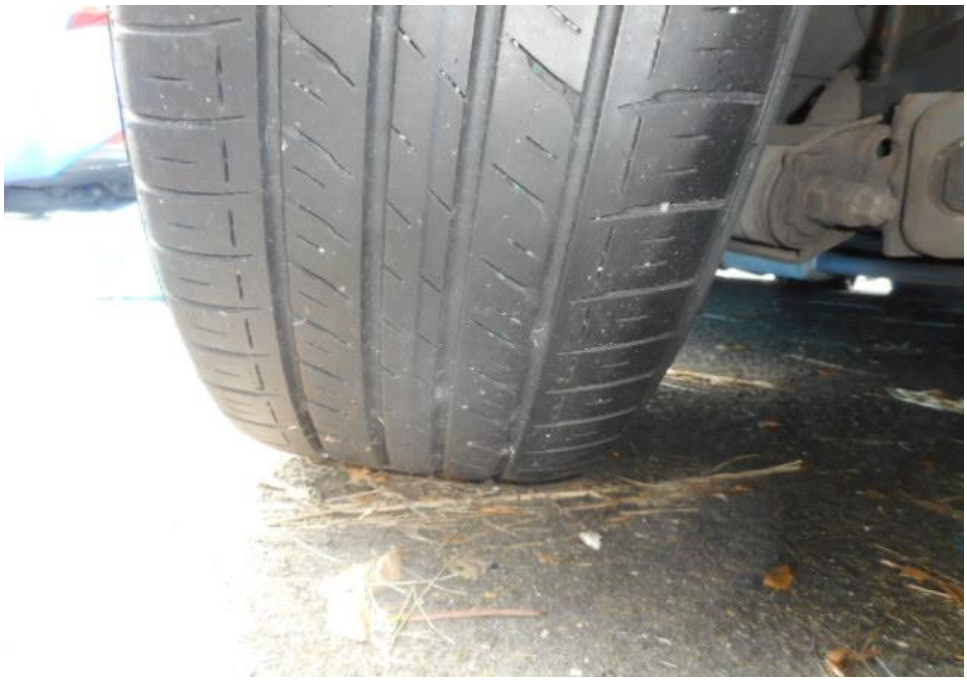


Photo 11 shows the condition of the rear left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4.9mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation. The 4 tyres of the Motor Car were wrapped around standard alloy wheel rims.

Photo 12 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 4.1mm. 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 Motor Car's 4 tyres.

Engine Compartment & Operating Fluids

8. Upon examination of the engine compartment of the Motor Car, I had observed that the power steering fluid and brake fluid was observed to be insufficient. However, all the parts and components inside the engine compartment to be intact and unaffected by the accident. The engine oil, and engine coolant were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids. The brake fluid was observed to be insufficient however we did not find any leakage to the braking components

9. Further examination of the engine compartment revealed that the a hose belonging to the power steering fluid reservoir was observed to be broken off and had resulted the power steering fluid to leak out and become insufficient. From our understanding, due to wear and tear the power steering reservoir and its hose had previously broken the power steering fluid reservoir but was patched up prior to the accident. In our opinion, the hose had broken off again due to wear and tear resulting in the power steering fluid to leak out and causing the driver to lose control of the steering abilities of the Motor Car.

10. My subsequent checks on the underside of the Motor Car also revealed no sign(s) or indication(s) of fluid leak and/or fluid stain(s). Visually, the various undercarriage components of the Motor Car were all observed to be intact and without any visible damage. See photo 13 – 19 below.

Photo 13 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 fluid leakage and/or fluid stain within the engine compartment.

Photo 14 shows the brake fluid reservoir of the Motor Car at the time of my inspection. The brake fluid was observed to be of insufficient level (arrowed) however, we did not observed any leakage to the braking components

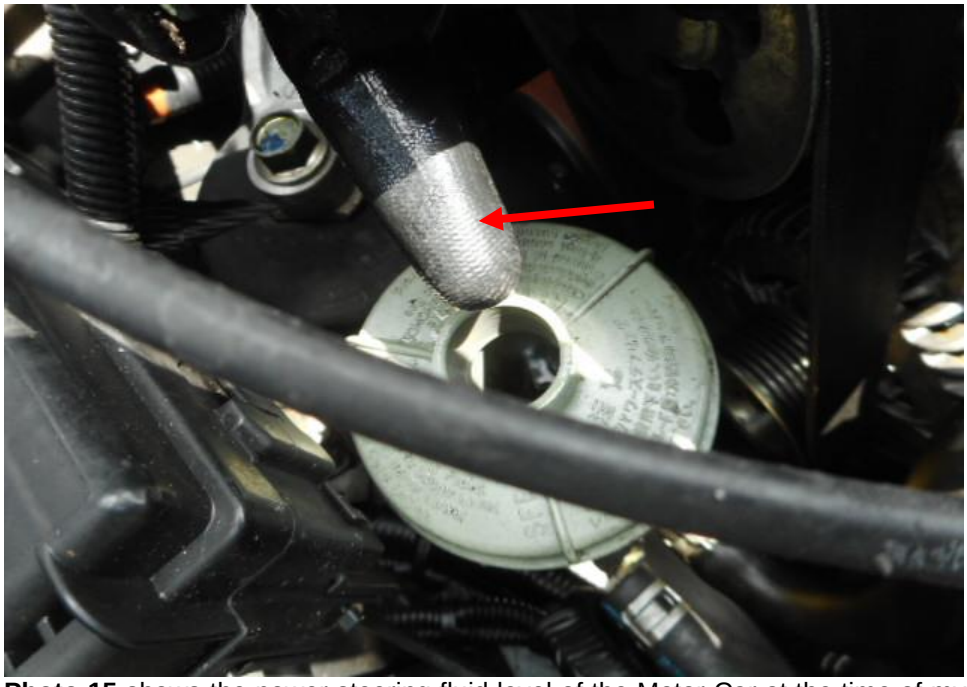


Photo 15 shows the power steering fluid level of the Motor Car at the time of my inspection. The power steering fluid was observed to be of insufficient level (arrowed) as result of a broken hose of the power steering system which had causing all the power steering fluid to leak out.

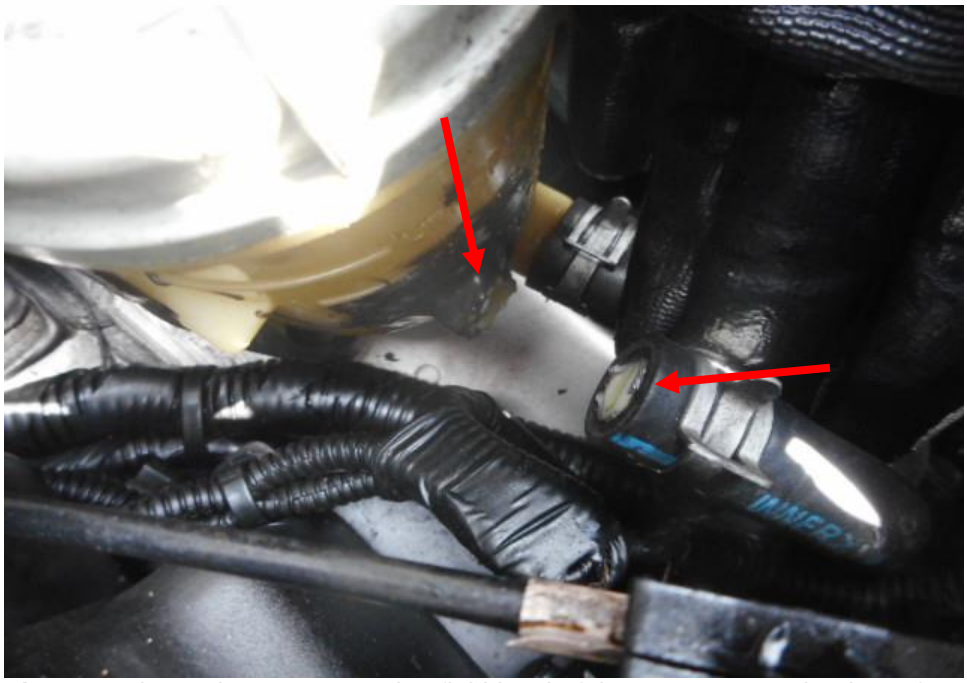


Photo 16 shows the power steering fluid level of the Motor Car at the time of my inspection. The power steering fluid was observed to be of insufficient level as its hose had previously broken but was patched up prior to the accident. In our opinion, the hose had broken off the power steering fluid reservoir again due to wear and tear resulting in the power steering fluid to leak out and causing the driver to lose control of the steering abilities of the Motor Car.

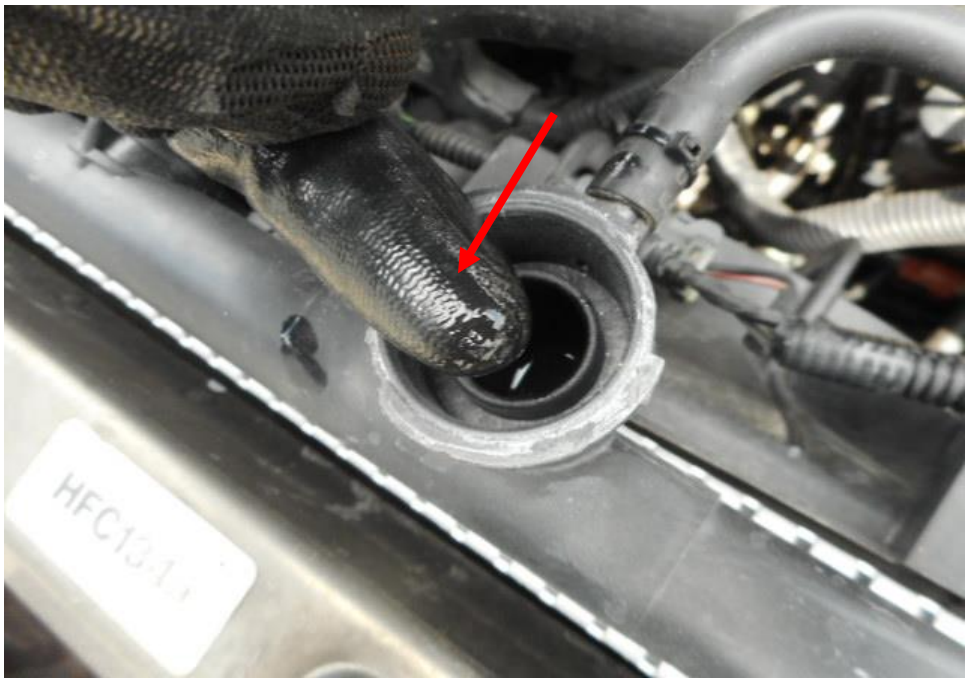


Photo 17 shows checks being carried out to the engine coolant of the Motor Car at the time of my inspection. The engine coolant was observed to be of sufficient level (arrowed) and without any visible contamination.

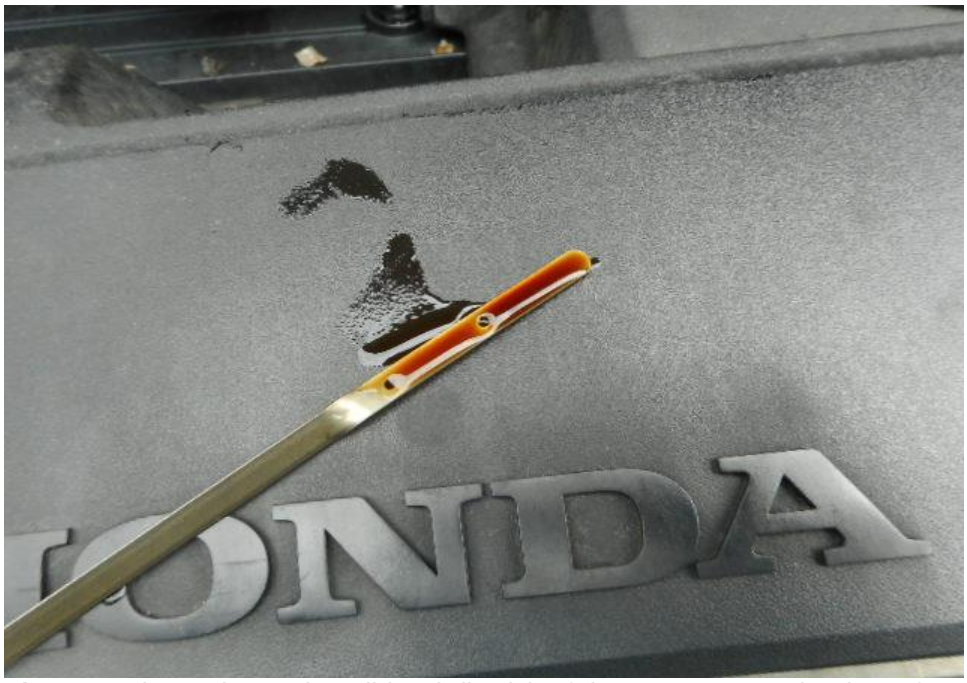


Photo 18 shows the engine oil level dipstick of the Motor Car at the time of my inspection. The engine oil was observed to be of sufficient level and without any visible contamination.

Photo 19 shows the undercarriage of the Motor Car, at the area where the engine housing and transmission housing are located. I did not find any sign(s) or indication(s) of fluid leak and/or fluid stain(s) on the underside of the Motor Car.

Braking System & Steering System

11. Static brake tests conducted on the Motor Car was not conducted as it requires the engine to be started up however, the engine of the Motor Car was unable to be started up despite multiple attempts in jumpstarting it. There was no sign(s) of brake fluid leakage along the brake hoses, brake pipes and the hoses were all observed to be intact.

12. Static test on the steering system of the Motor Car not conducted as it requires the engine to be started up however, the engine of the Motor Car was unable to be started up despite multiple attempts in jumpstarting it. My 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 intact. The front right driveshaft was observed to be damaged as a result of the accident. A hose belonging to the power steering fluid reservoir was also observed to be broken off and had resulted the power steering fluid to leak out and become insufficient. See photo 20 - 26 below.

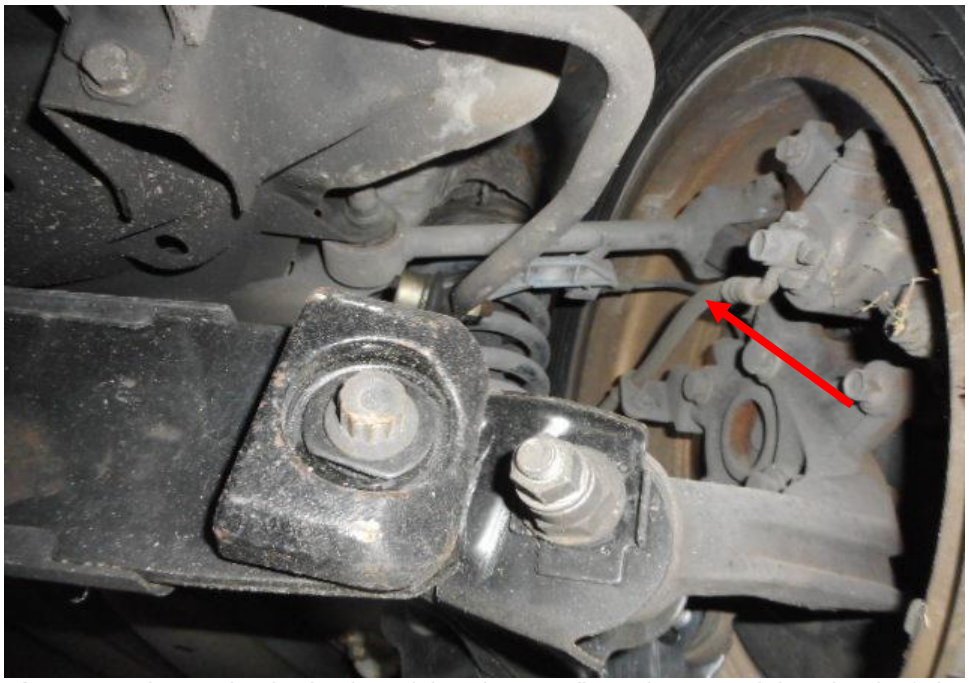


Photo 20 shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. The undercarriage components of the Motor Car were also all found to be intact and without any visible damage.

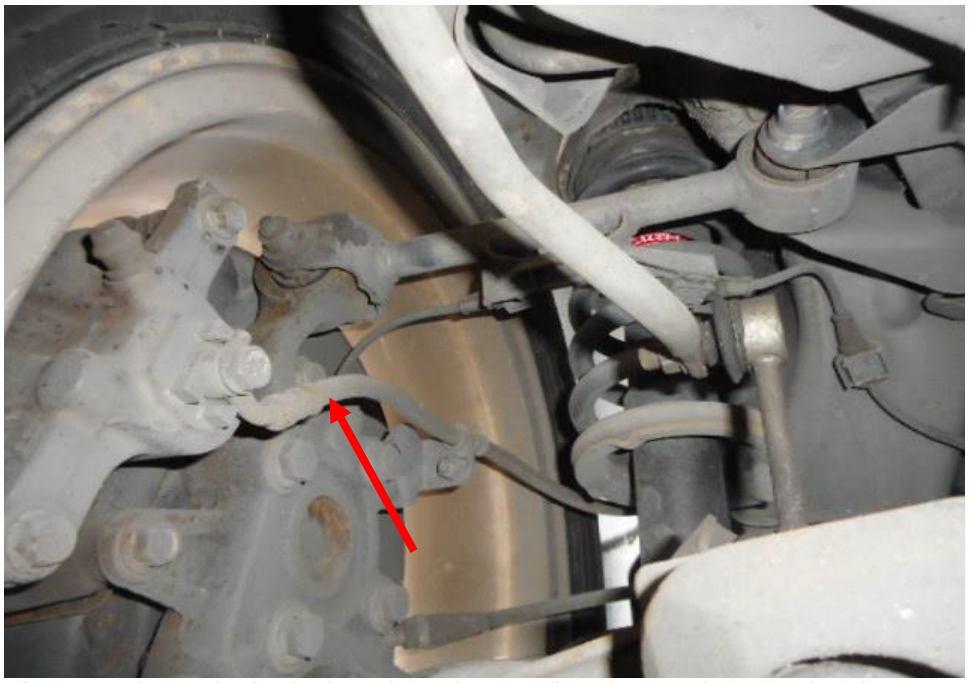


Photo 21 shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car. The undercarriage components of the Motor Car were also all found to be intact and without any visible damage.

Photo 22 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car. The undercarriage components of the Motor Car were also all found to be intact and without any visible damage.

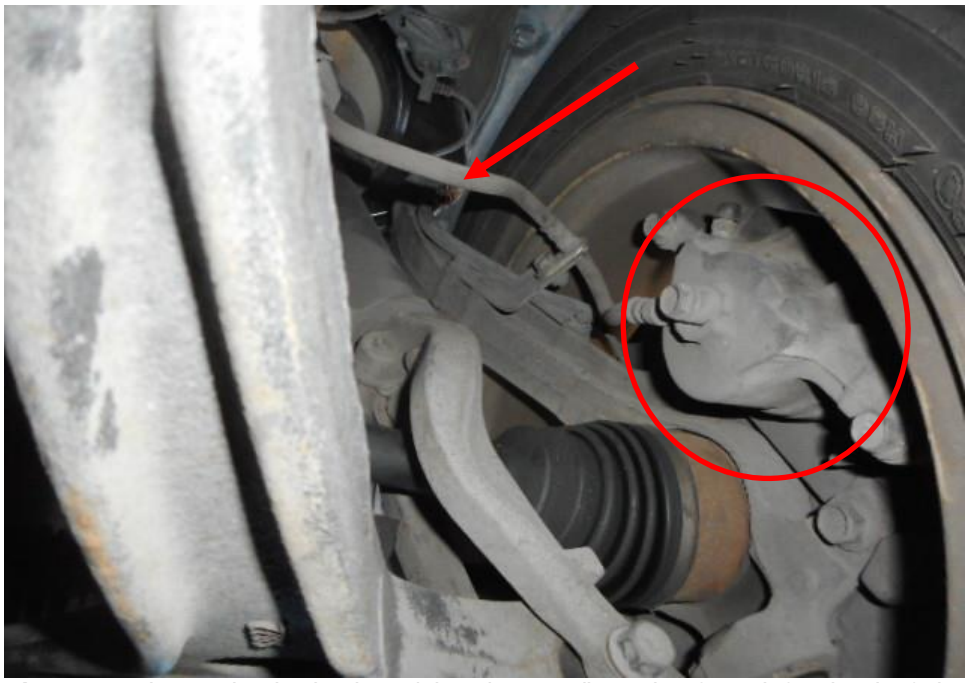


Photo 23 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage.

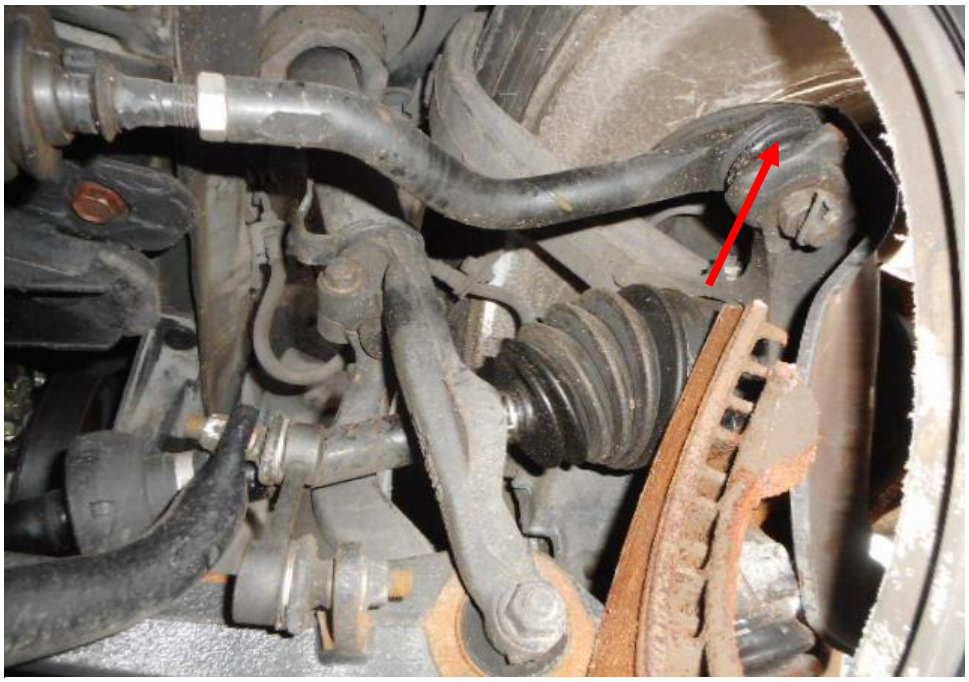


Photo 24 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (arrowed). The various steering components were all found to be intact. There was also no sign of fluid stain observed on the various undercarriage components at the front right wheel of the Motor Car.

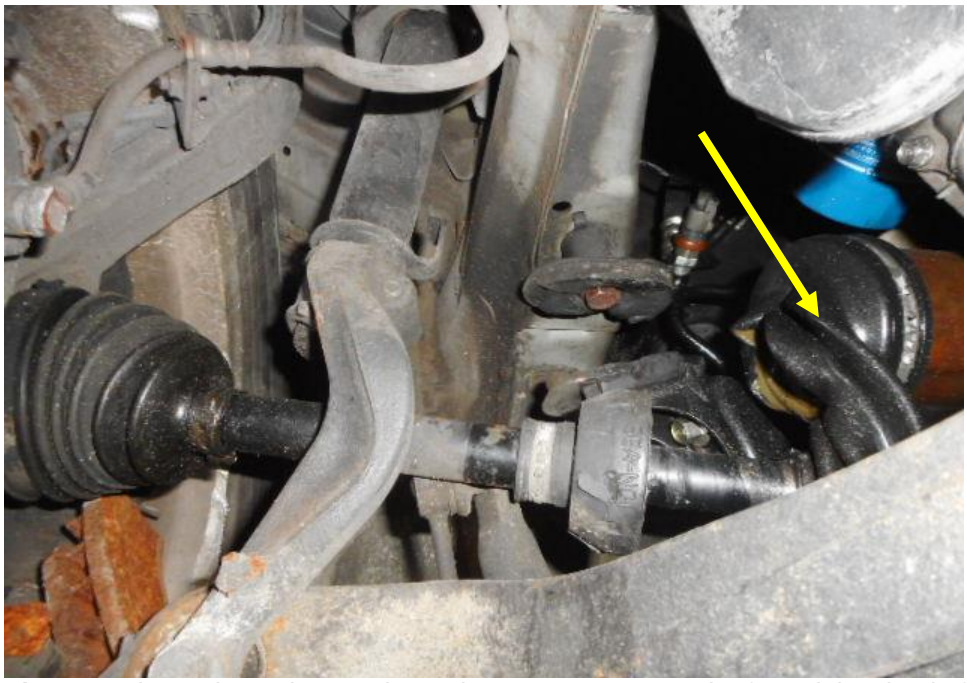


Photo 25 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the drive shaft (arrowed) was observed to be damaged as a result of the accident.

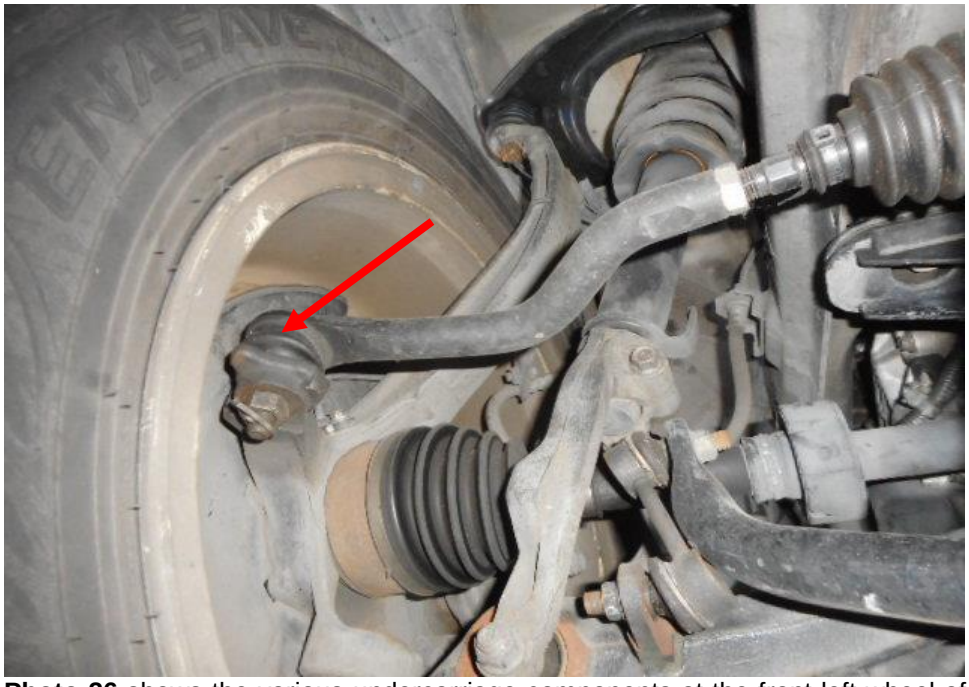


Photo 26 shows the various undercarriage components at the front left wheel of the Motor Car, which had included the steering tie rod (arrowed). The various undercarriage components of the Motor Car were all found to be intact without any visible damage.

Electronic Safety / Warning Indicators

13. Motor Car 's automatic self-test of the functionality of its electronic operating systems was unable to be conducted as it requires the engine to be started up however, the engine of the Motor Car was unable to be started up despite multiple attempts in jumpstarting it.

Seat Belts

14. The Front right, front left, rear right and rear left seat belts of the "Motor Car" were tested and all the seat belts were able to be fastened securely into the respective pre-tensioners that were fitted at the sides of each seat.

Operational Behaviour of the Motor Car

15. A short operational test of the Motor Car, was unable to be conducted as it requires the engine to be started up however, the engine of the Motor Car was unable to be started up despite multiple attempts in jumpstarting it. And the damages to the front right driveshaft and the broken power steering fluid and hose had prevented the operational test of the Motor Car.

Conclusion

16. From my physical inspection of the Motor Car, I have found evidence of possible mechanical failure. As the broken hose of the power steering fluid reservoir had caused the fluid leakage resulting in the driver losing the steering abilities of the Motor Car that have caused and contributed to the accident.

17. The front right tyre and wheel rim of the Motor Car was damaged as a result of the accident. The 3 front left and both rear tyres of the Motor Car were 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 3 tyres. The 3 tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 4.1mm to 4.9mm. And the front right tyre with remaining tread depth of approximately 3.8mm.

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