

Your Ref: TP/IP/58303/2018
Our Ref : CI/TPD18022205/Z

20th March 2019

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SGK 2283X

1. We refer to your request on 28th November 2018 to conduct a physical inspection of a motor car bearing registration number SGK 2283X (herein referred to as “**Motor Car**”), which was involved in a fatal road traffic accident on 12th October 2018.
2. The purpose of this inspection is to primarily determine if there was any possible mechanical failure to the Motor Car that may have contributed to the accident.
3. Following the request, we carried out a physical inspection of the Motor Car on 19th December 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 not recorded due to the damages sustained to the engine system as a result of the accident.
5. The Motor Car had sustained extensive impact damage at its frontal right portion. The impact force was significant, causing the various parts and components inside the engine compartment to be damaged. This had include its engine assembly, which were amongst the multiple parts and components inside the engine compartment that were pushed inwards, towards the rear of the Motor Car.

6. Other body parts that were damaged had included a buckled front bonnet, buckled front right side fenders, missing licence plate, shattered windshield and damaged front bumper & right headlamp amongst others. The interior compartment was not affected by the accident.
7. This was likely to be the consistency of the accident's case fact that on 12th October 2018 at about 1459hrs, a motorcycle was travelling along Ubi Avenue 3 towards Kaki Bukit where at the signalised junction of Eunos Link, he was being hit by a Motor Car coming from his left side. See photo 1 to 12 below.



Photo 1 shows a general view of the frontal portion of the Motor Car at the time of our inspection. The Motor Car was observed to have sustained extensive impact damage at its frontal portion. The impact force was significant, causing the various parts and components inside the engine compartment to be damaged.

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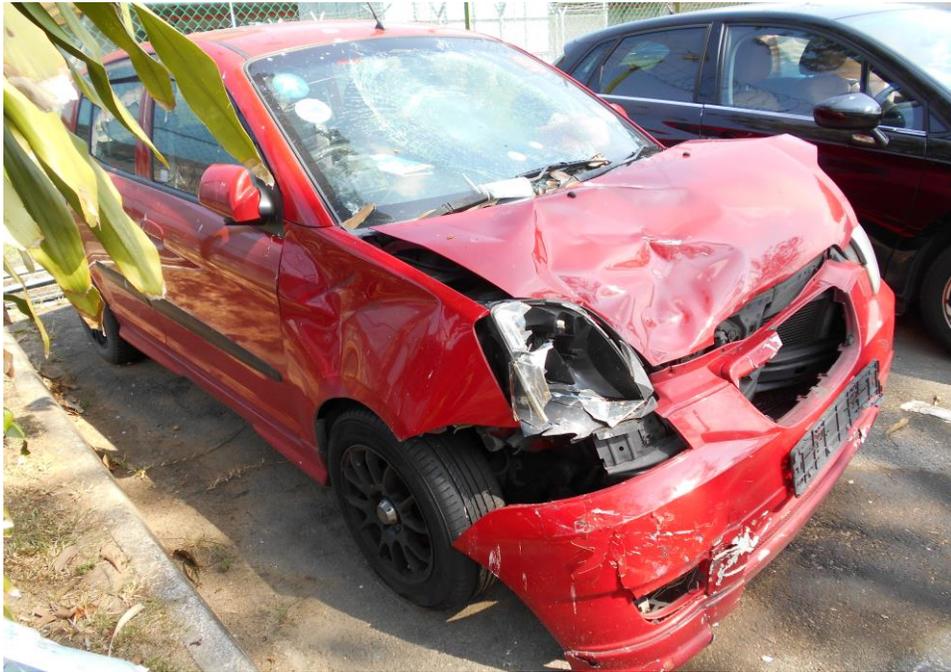


Photo 2 shows a general view of the front right portion of the Motor Car at the time of our inspection. The Motor Car was observed to have sustained extensive impact damage at its front right portion.



Photo 3 shows a general view of the front left portion of the Motor Car at the time of our inspection. The Motor Car was observed to have sustained extensive impact damage at its front left portion.

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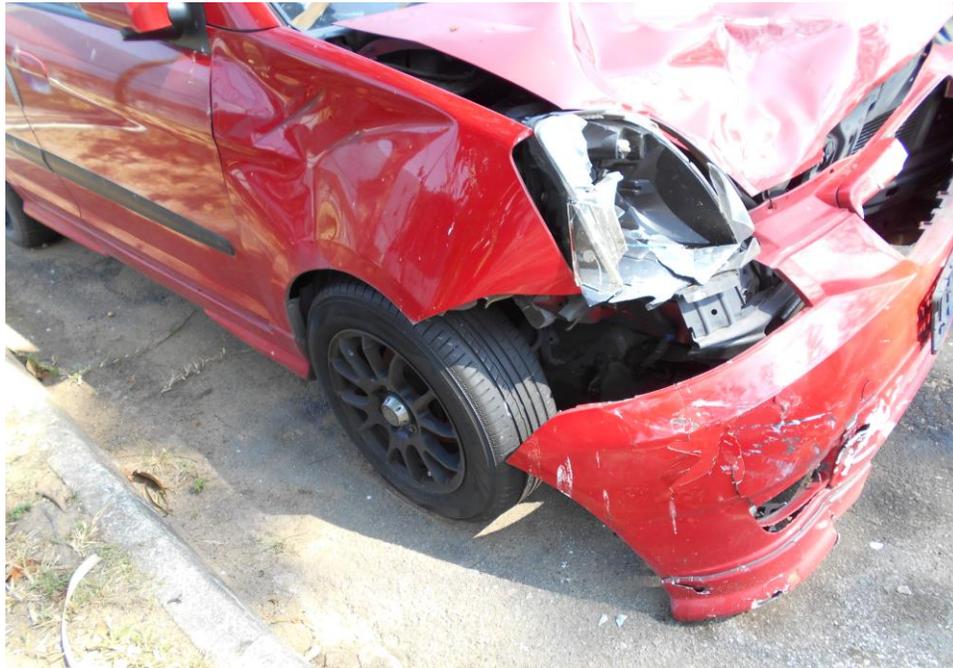


Photo 4 shows a closer view of the damage sustained on the front right of the Motor Car. The impact force was significant, causing the various parts and components inside the engine compartment to be pushed inwards, towards the rear of the Motor Car.



Photo 5 shows a closer view of the damage sustained on the front left of the Motor Car. The impact force was significant, causing the various parts and components inside the engine compartment to be pushed inwards, towards the rear of the Motor Car.

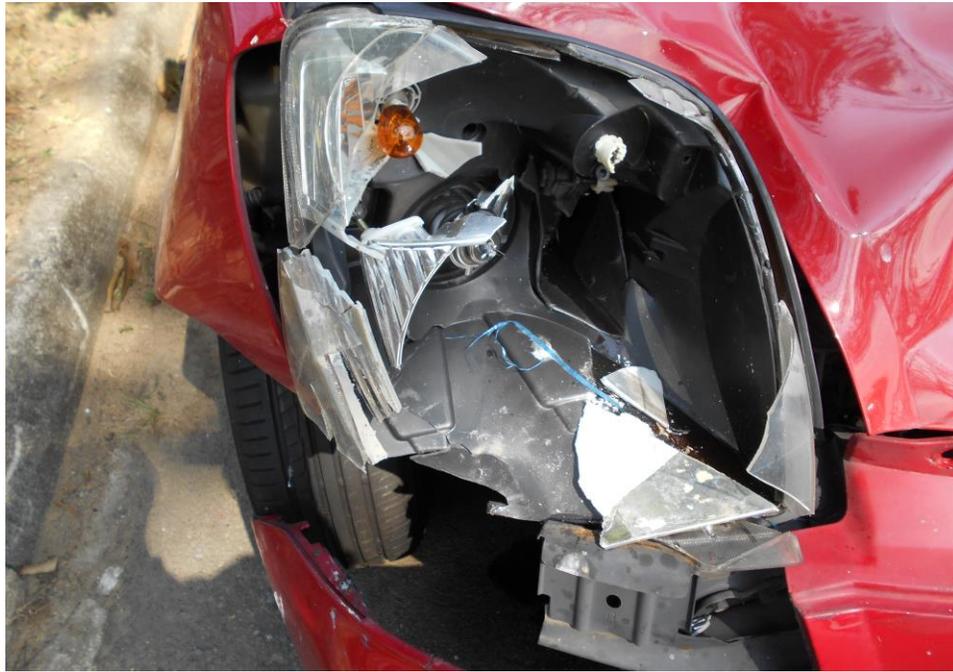


Photo 6 shows a closer view of the right side headlamp of the Motor Car. The impact force was significant, causing the various parts and components to be pushed inwards, towards the rear of the Motor Car.

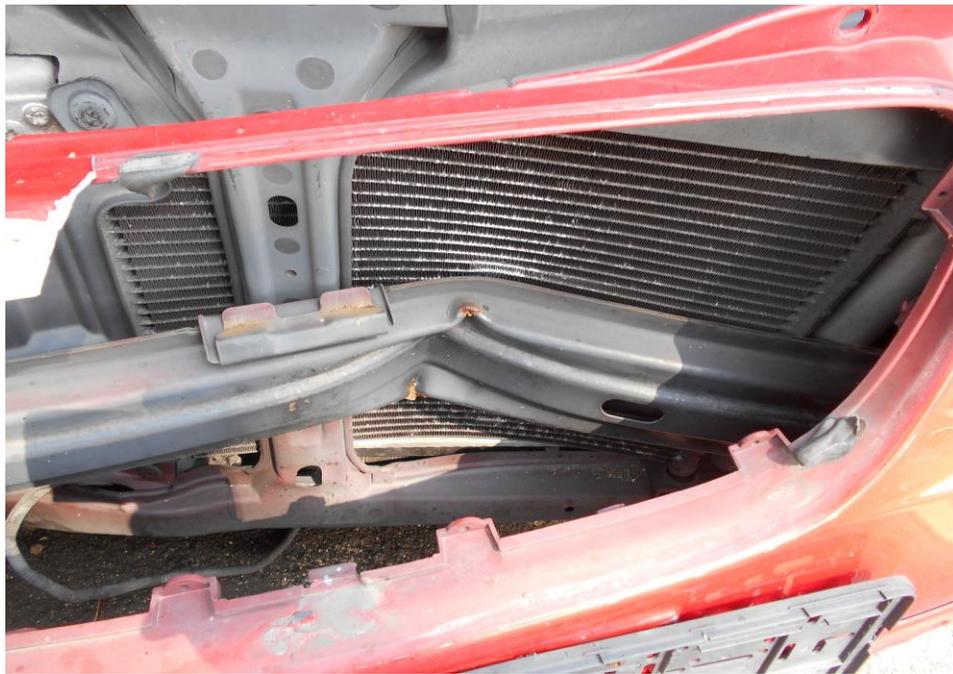


Photo 7 shows a closer view of the damaged radiator of the Motor Car from the front view. The impact force was significant, causing the various parts and components inside the engine compartment to be pushed inwards, towards the rear of the Motor Car.

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Photo 8 shows a closer view of the shattered windshield of the Motor Car. The impact force was significant, causing it to be cracked as a result of the accident.



Photo 9 shows the interior portion of the Motor Car. The impact force did not affect the interior portion.

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Photo 10 shows a general view of the rear left portion of the Motor Car at the time of our inspection. The rear portion was observed to be relatively unaffected by the accident.



Photo 11 shows a general view of the rear left portion of the Motor Car at the time of our inspection. The rear portion was observed to be relatively unaffected by the accident.



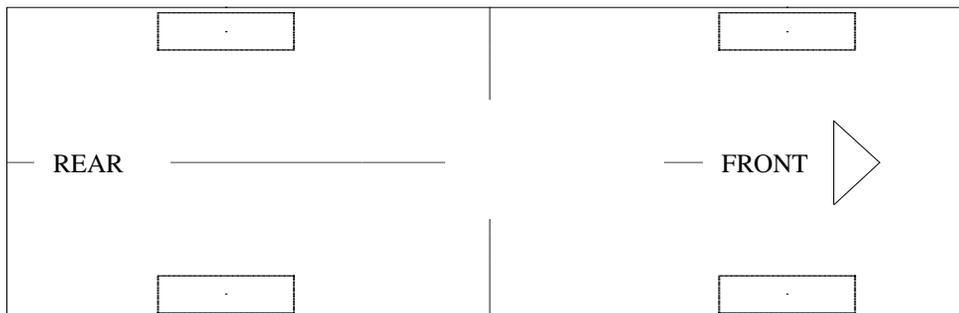
Photo 12 shows a general view of the rear right portion of the Motor Car at the time of our inspection. The rear portion was observed to be relatively unaffected by the accident.

Tyres and Wheel Rims

- 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 tyre brand, tyre size and remaining tread depth of the 4 tyres were recorded as follows:-

Yokohama BluEarth-A 175/65R14 (5mm)

Yokohama BluEarth-A 175/65R14 (6mm)



Maxtrek Maximus MI 175/65R14 (6mm)

Yokohama BluEarth-A 175/65R14 (6mm)

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9. The 4 tyres were observed to be wrapped around alloy wheel rims that were found to be without any significant damage. See photo 13 – 16 below.



Photo 13 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.



Photo 14 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.



Photo 15 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 5mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre.



Photo 16 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 5mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre.

Engine Compartment & Operating Fluids

10. The engine compartment of the Motor Car was severely affected by the collision. Major parts and components inside the engine compartment were badly damaged. Parts like the radiator, power steering system amongst others were found to be damaged.
11. Leakage of the various operating fluids was noted. Operating fluid such as power steering fluids, engine coolant fluids were amongst the operating fluids that had sustained leakage from the respective tank/container. Given the extent of damages to the engine compartment, the leakages were likely due to the accident. The engine undercarriage was however observed to be covered with fresh fluid, suggesting leakage of fluid. There was no accumulation of dust and/or dirt particles on the engine housing where the fluid stains had formed. This would indicate that the fluid leakage was a fresh leak and likely to be a result of the accident. We were therefore unable to comment whether these operating fluids were of sufficient level and without contamination for vehicular operation prior to the accident. See photo 17 & 22 below.

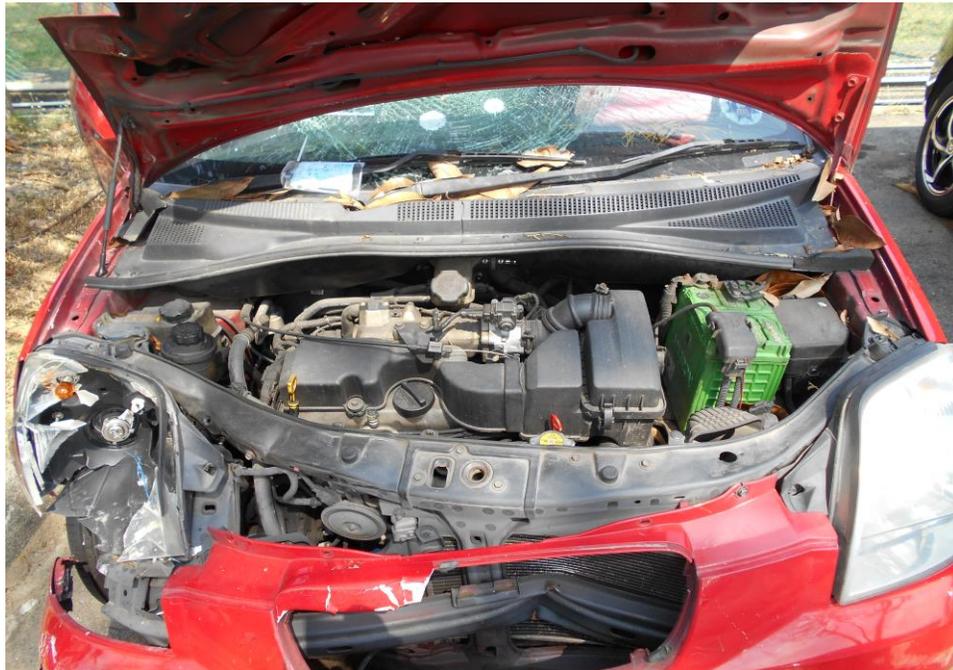


Photo 17 shows the close up view of the engine compartment of the Motor Car. It was observed to have sustained damages due to the accident's impact collision.



Photo 18 shows the close up view of the radiator's coolant inlet. It was observed to be empty likely due to the leakage as a result of the accident.

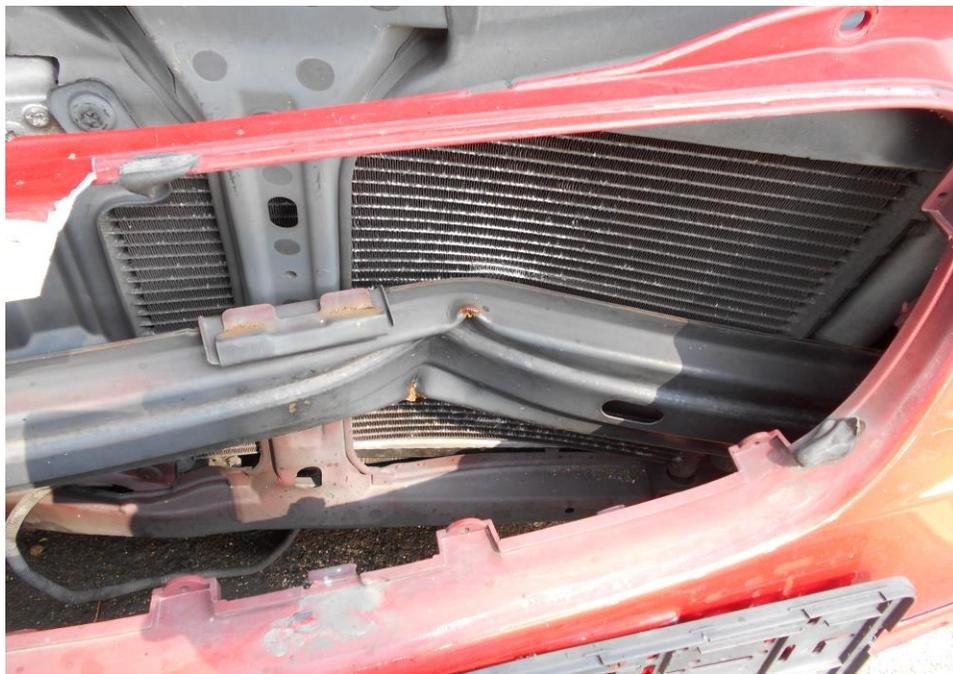


Photo 19 shows the close up view of the damaged radiator as a result of the accident which caused the coolant fluid leakage.

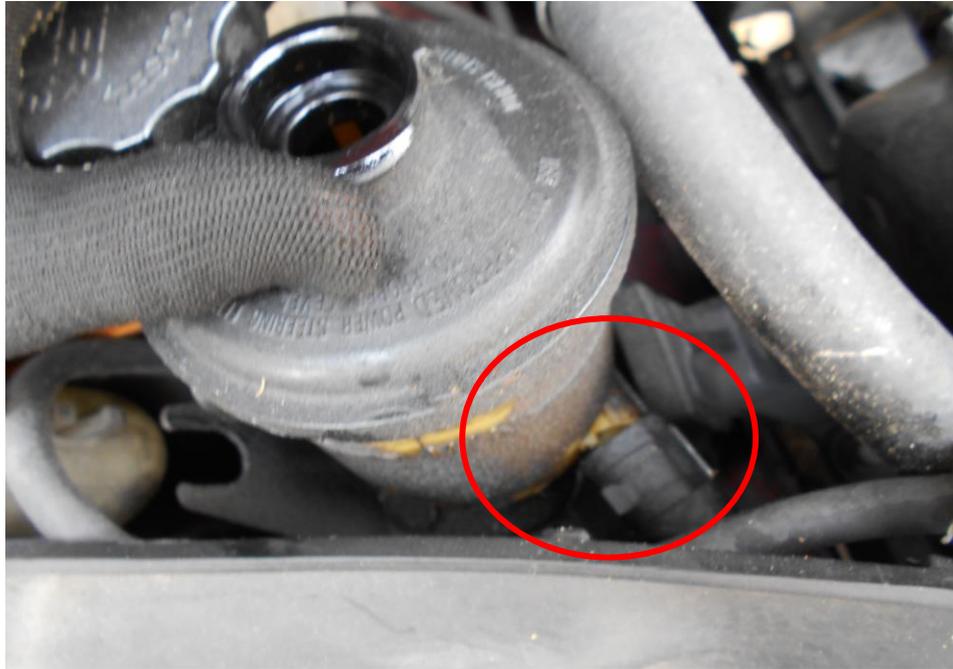


Photo 20 shows the close up view of the damaged power steering fluid reservoir as a result of the accident. It was observed to be cracked due to the accident.



Photo 21 shows the close up view of the power steering fluid leakage on the ground underneath the engine due to the accident.



Photo 22 shows the close up view of the engine fluid dip stick of the Motor Car. It was observed to be at a sufficient level and without any contamination.

Steering System & Braking System

12. We were not able to conduct any tests on the steering system of the Motor Car. This was due to several mechanical components of the power steering system & engine system.

13. As for the braking system, our investigation reveals that there was no brake fluid leakage or damages to its supporting components. The brake hoses, brake booster, brake callipers and brake fluid reservoir was found to be intact and unaffected by the accident's impact. The brake fluid was observed to be with sufficient level and without any contamination at the time of our examination. See photo 23 - 26 below.

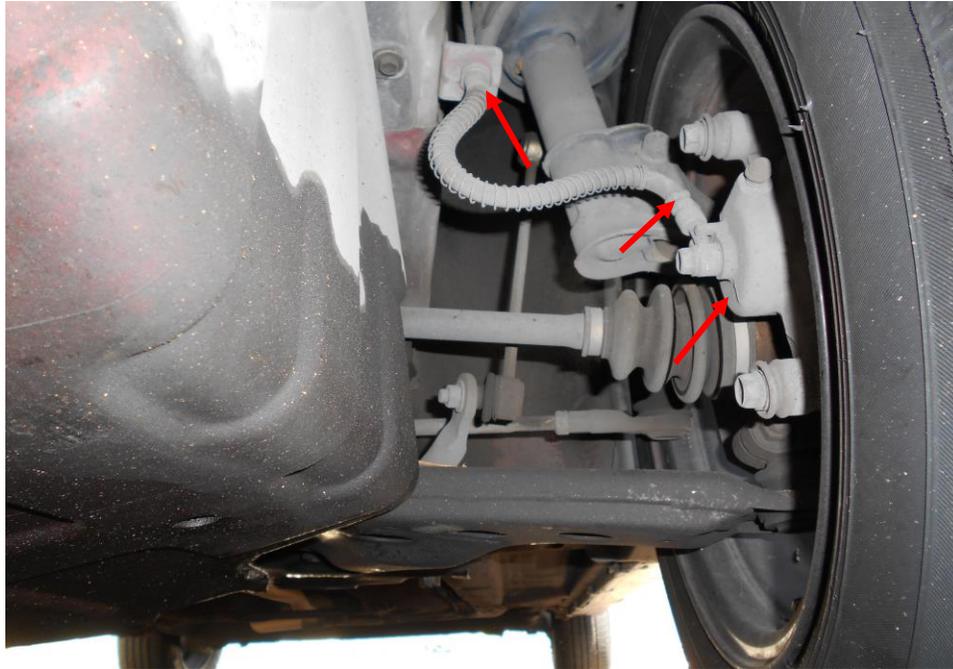


Photo 23 shows the braking components at the front left wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car.

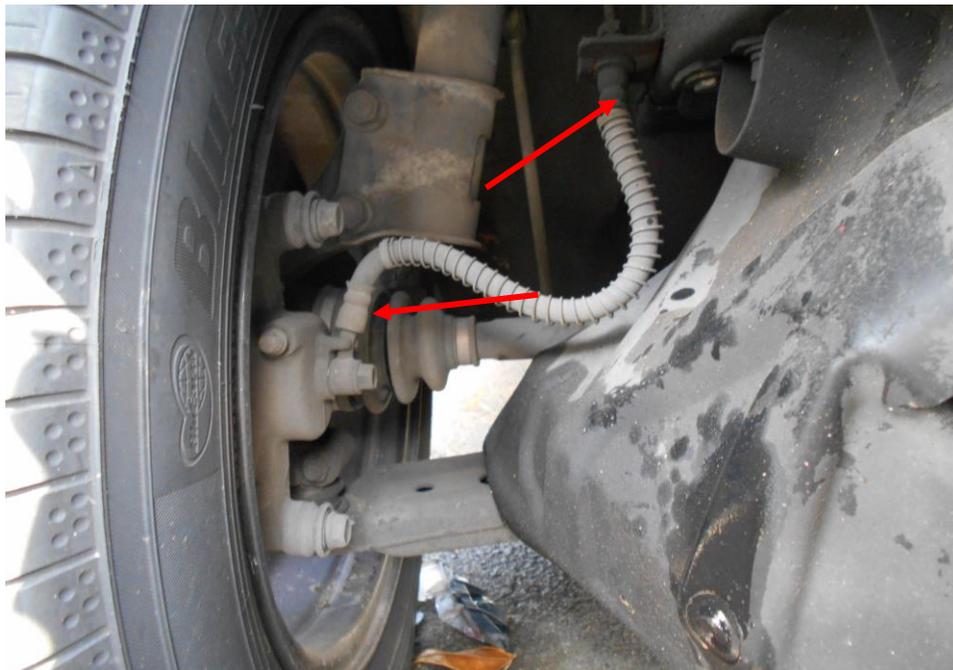


Photo 24 shows the braking components at the front right wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car.



Photo 25 shows the braking components 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.



Photo 26 shows the braking components 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.

Electronic Safety / Warning Indicators

14. The Motor Car's automatic self-test of the functionality of its various operating systems like the Anti-Brake Lock System (ABS) and Supplemental Restraint System (SRS) during cranking of the engine was not able to be initiated as the engine of the Motor Car could not be started due to damage of engine system of the Motor Car as a result of the accident.

Operational Behaviour of the Motor Taxi

15. No operational test to primarily determine whether there was any abnormality to the engine system, transmission system and steering system of the Motor Car could be conducted given the extent of damage that it had sustained.

Conclusion

16. For this particular case, we were unable to determine whether there was any possible mechanical failure to the Motor Car that may have contributed to the accident. This was mainly due to the extent of damage that it had sustained. Its engine system and steering system were damaged as a result of the accident

17. The 4 tyres of the Motor Car were 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 5mm to 6mm each.

18. Our findings were based solely on a static and visual inspection of the Motor Car. No operational test could be carried out to the Motor Car given the extent of damage that it had sustained as a result of the accident.

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