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Your Ref: TP/IP/23213/2022 22nd November 2022
Our Ref : CI/TPD22010907/P

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLZ 6560G

1. I refer to your request on 31st October 2022 to conduct a physical inspection of a Motor car bearing registration number SLZ 6560G (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 1st September 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 9th November 2022 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.

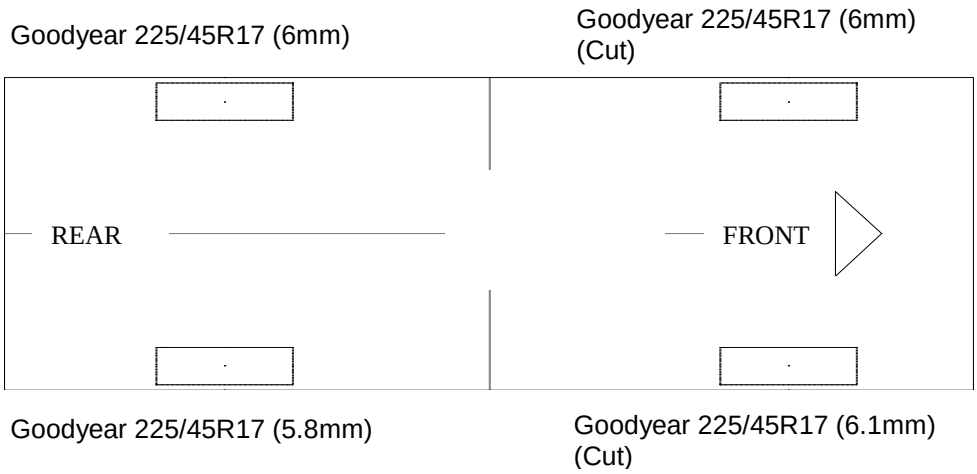
General Condition

4. The mileage of the Motor car was not recorded as the engine and ignition system of the Motor Car was damaged as a result of the accident.

5. The Motor car was observed to have sustained damage at its front portion. Its front windscreen, front bonnet, front bumper, front left and right fender, front left and right headlamp was amongst the body parts and various engine components were also damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.

Tyres and Wheel Rims

6. The condition of the Motor Car's front right and left tyres was observed to be cut as a result of the accident. However, the rear right and left 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 2 rear tyres. The 2 rear 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:-



7. The front right and left rims was observed to be damaged as a result of the accident. However, the rear right and left tyres were observed to be wrapped around alloy wheel rims that were found to be without any damage. See photo 1 – 16 below.

Photo 1 shows a general view of the Motor Car's rear body at the time of my inspection. The rear portion of the Motor Car was observed to have been undamaged by the accident.

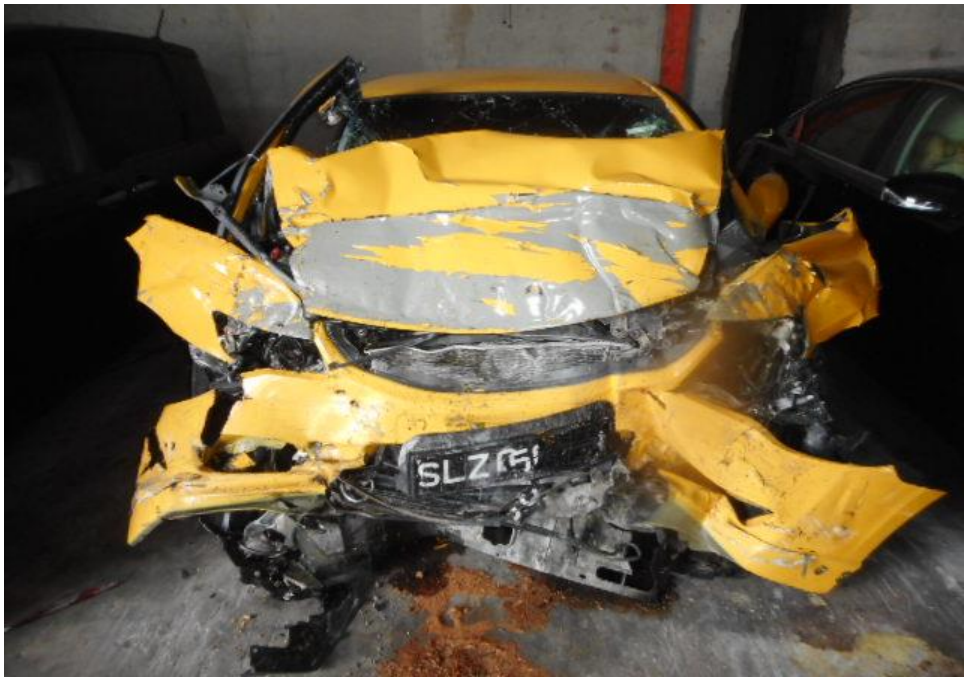


Photo 2 shows a general view of the Motor Car's front body at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its front windscreen, front bonnet, front bumper, front left and right fender, front left and right headlamp was amongst the body parts and various engine components were also damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.

Photo 3 shows the close up 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 windscreen (circled) was damaged as a result of the accident.

Photo 4 shows the close up 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 bonnet (circled) was damaged as a result of the accident.

Photo 5 shows the close up 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 (circled) was damaged as a result of the accident.

Photo 6 shows the close up 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 right headlamp (circled) and front right fender (arrowed) was amongst the body parts and various components in the engine compartments were also damaged as a result of the accident.

Photo 7 shows the close up 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 left headlamp (circled) and front left fender (arrowed) was amongst the body parts and various components in the engine compartments were also damaged as a result of the accident.

Photo 8 shows a general view of the Motor Car's right body at the time of my inspection. The right portion of the Motor Car was observed to have been removed by the SCDF due to the accident.

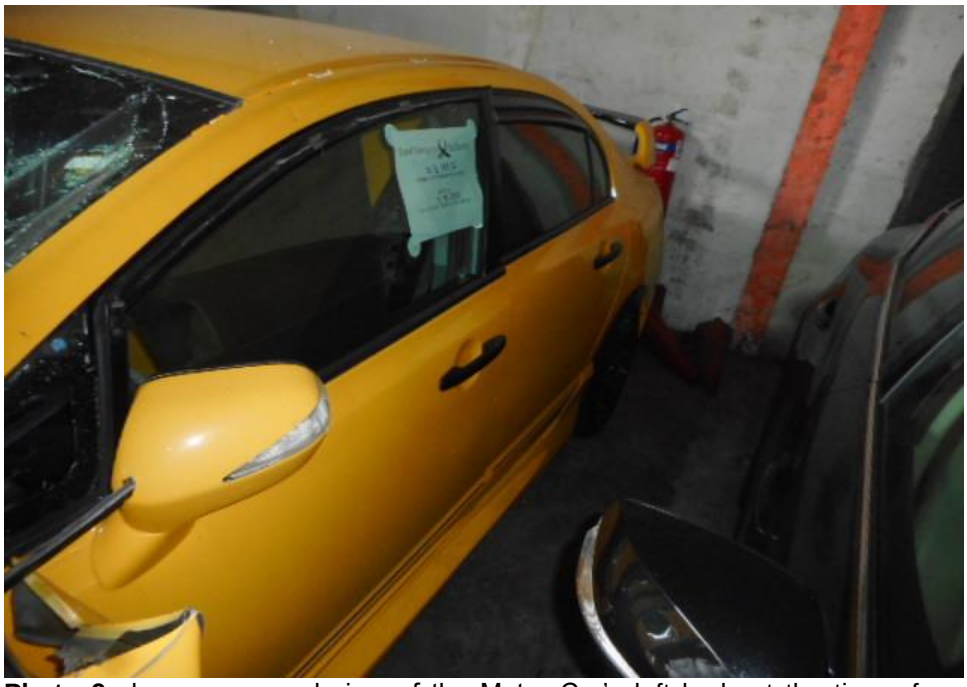


Photo 9 shows a general view of the Motor Car's left body at the time of my inspection. The left portion of the Motor Car was observed to have been undamaged by the accident.

Photo 10 shows the general condition of the front right tyre of the Motor Car, which was observed to be deflated due to the damaged rim (circled) as a result of the accident. The tyre was also observed with cut mark(s) with remaining tread depth of approximately 6.1mm.

Photo 11 shows the close up condition of the front right tyre of the Motor Car, which was observed to be deflated due to the damaged rim (circled) as a result of the accident. The tyre was also observed with cut mark(s) with remaining tread depth of approximately 6.1mm.

Photo 12 shows the general condition of the front left tyre of the Motor Car, which was observed to be deflated due to the damaged rim (circled) as a result of the accident. The tyre was also observed with cut mark(s) with remaining tread depth of approximately 6mm.

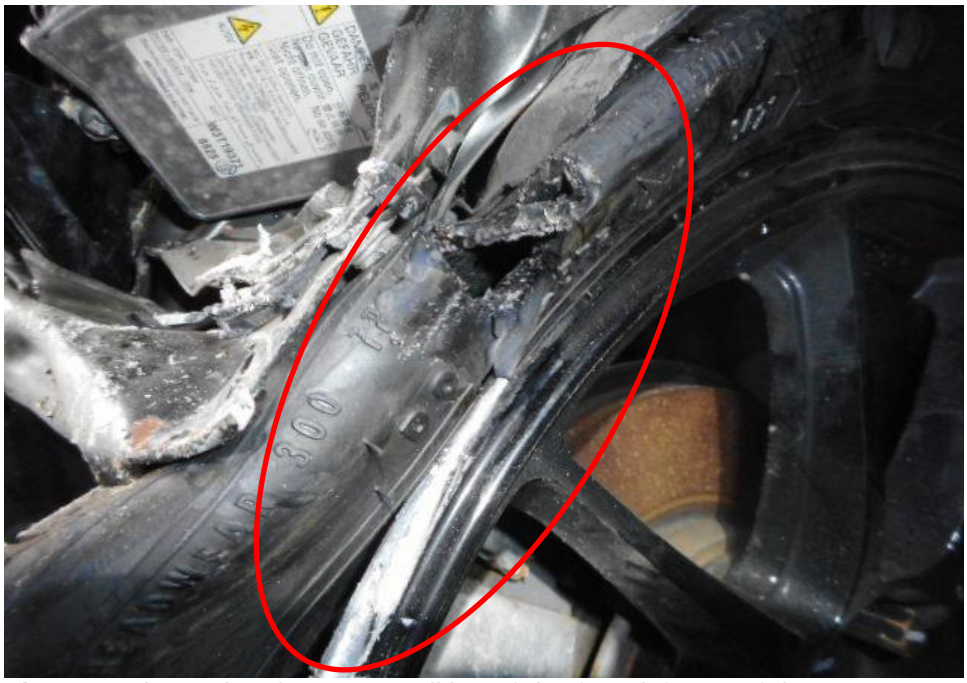


Photo 13 shows the close up condition of the front left tyre of the Motor Car, which was observed to be deflated due to the damaged rim (circled) as a result of the accident. The tyre was also observed with cut mark(s) with remaining tread depth of approximately 6mm.

Photo 14 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 5.8mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

Photo 15 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 6m. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

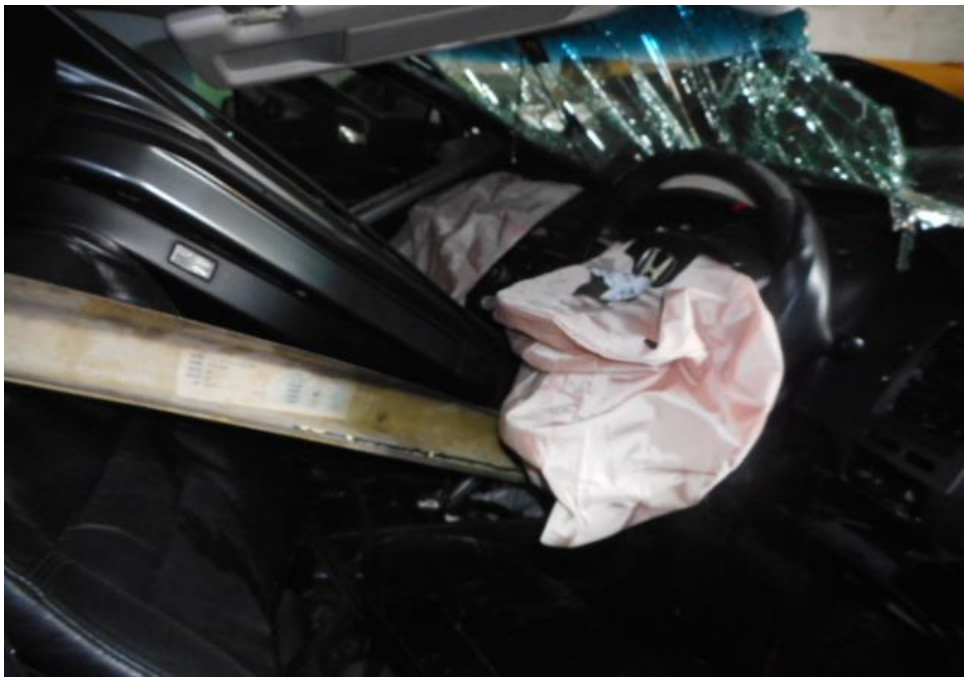


Photo 16 shows the deployment of the Supplemental Restraint System (SRS) airbag in the Motor Car as a result of the accident.

Engine Compartment & Operating Fluids

8. We were unable to raise the front bonnet of the Motor car to conduct the examination of the Motor Car's engine compartment because the damage caused by the accident had resulted in the damages to the lock mechanism of the bonnet and the structure of the engine compartment. (Unable to open).

9. During our inspection, we observed that the engine system was damaged as a result of the induced impact from the accident.

10. My subsequent checks on the underside of the Motor Car revealed sign(s) or indication(s) of fluid leak and/or fluid stain(s) from the damaged engine as a result of the accident. See photo 17 -19 below.

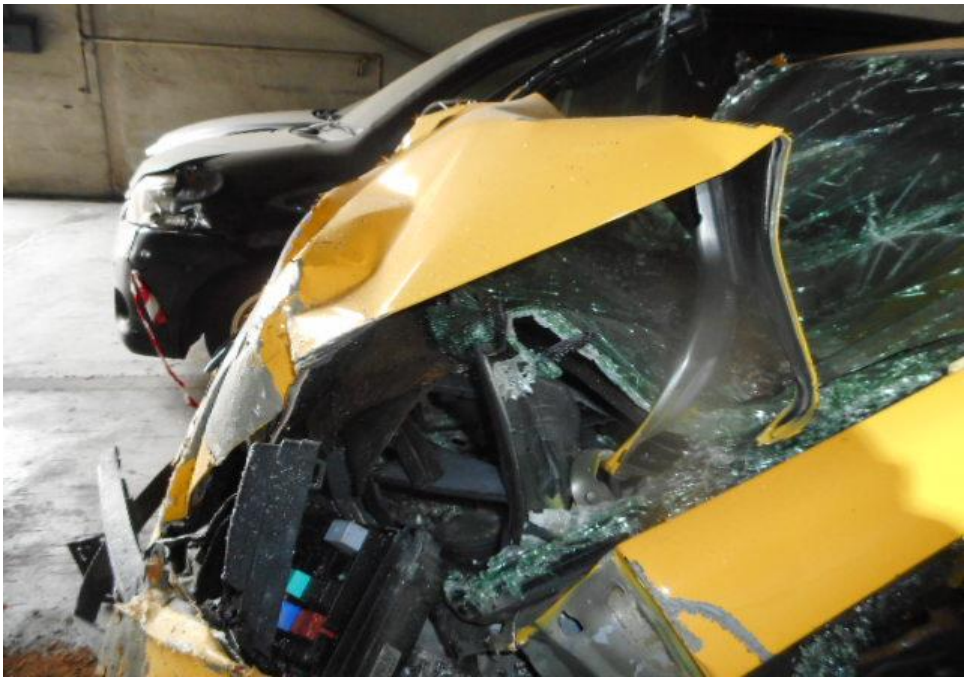


Photo 17 shows the close up view of the Motor Car's engine compartment at the time of my inspection. Its engine and components were crushed and damaged as a result of the accident.

Photo 18 shows the close up 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 engine (circled) was amongst the various components in the engine compartments were also damaged as a result of the accident.

Photo 19 shows the undercarriage of the Motor Car, at the area where the engine housing and transmission housing are located. I found sign(s) or indication(s) of fluid leak and/or fluid stain(s) on the underside of the Motor Car due to the damaged engine as a result of the accident.

Braking System & Steering System

11. For this inspection, I was not able to conduct any static brake and steering tests on the steering and braking system of the Motor Car due to the Motor Car running on electric power steering (EPS) and braking system which requires the Motor Car to be started as the access to the battery is blocked and engine is crushed.

12. My visual examination of the various steering and braking components which had included the rack and pinion, tie rods, tie rod ends and ball joints, brake hoses and brake pipes had revealed that these components were all generally intact. See photo 20 - 26 below.

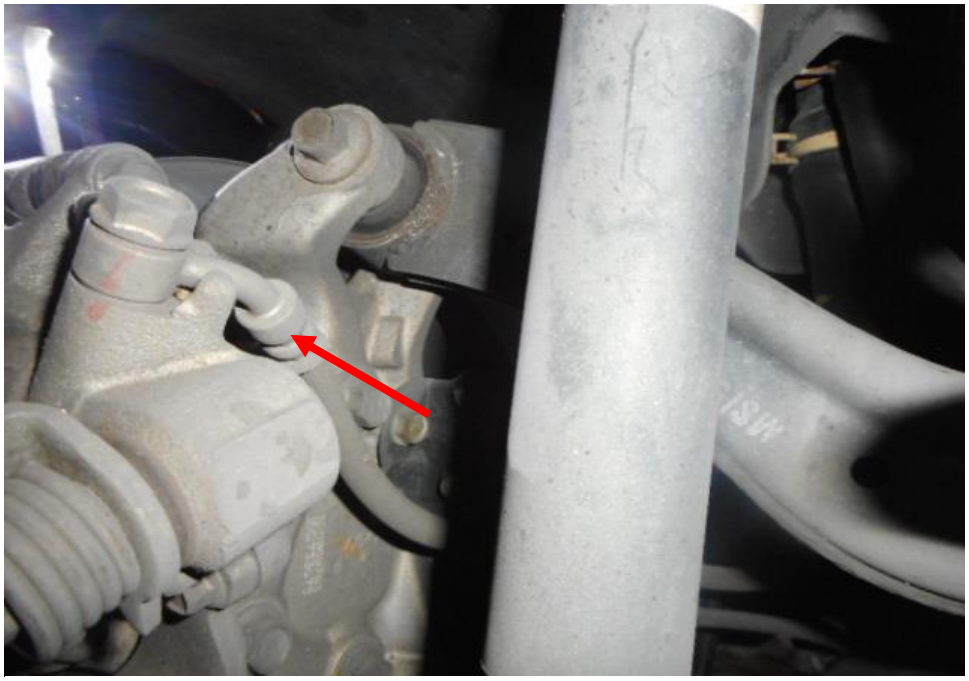


Photo 20 shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper to be intact and without visible damage.

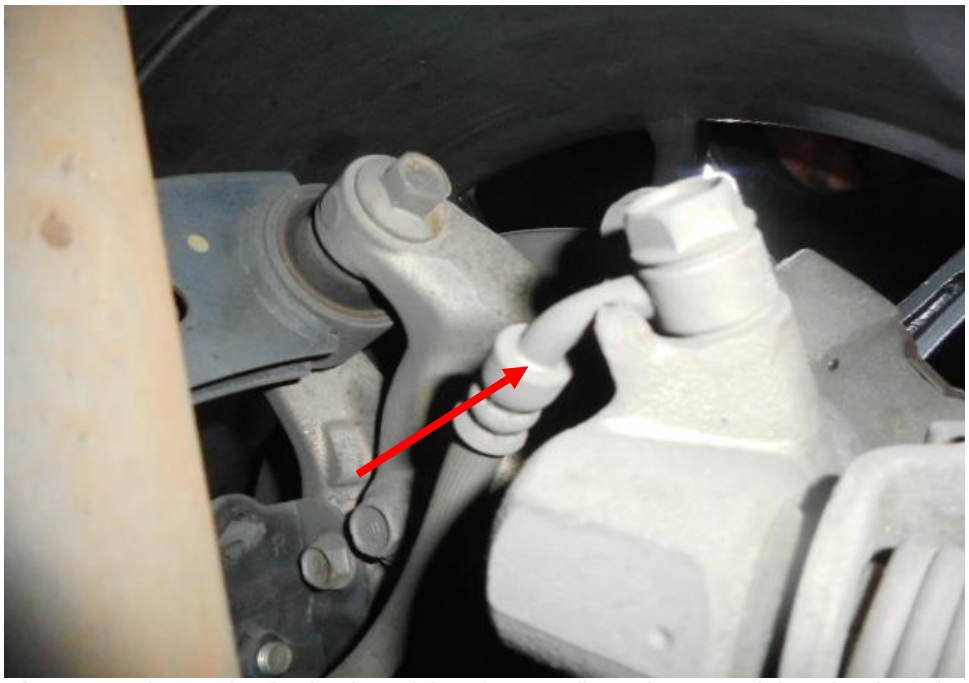


Photo 21 shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper to be intact and without visible damage.

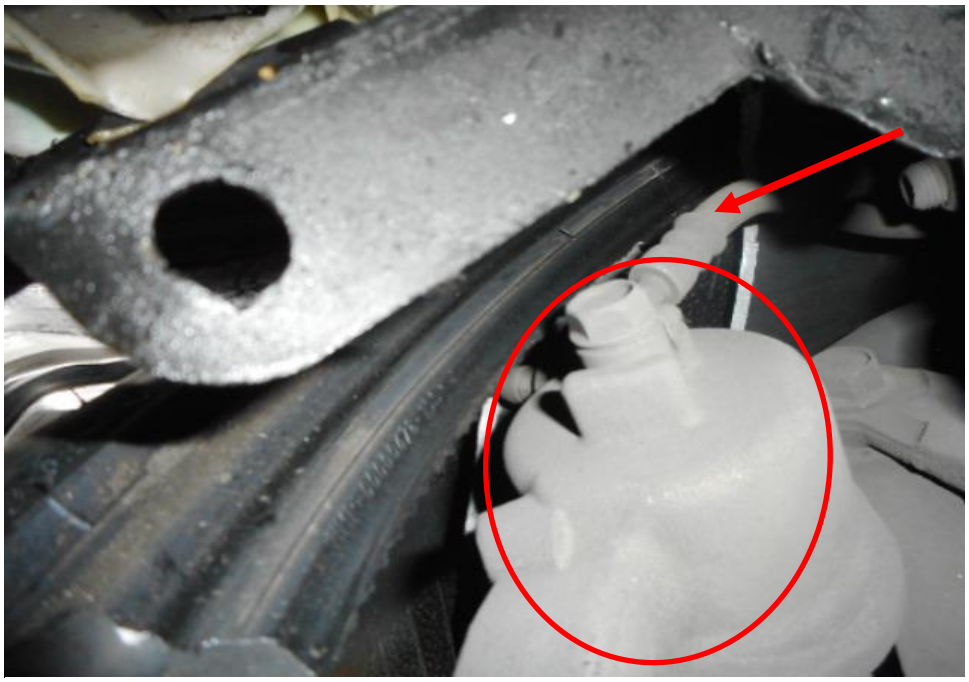


Photo 22 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled) was observed to be intact and without visible damage.

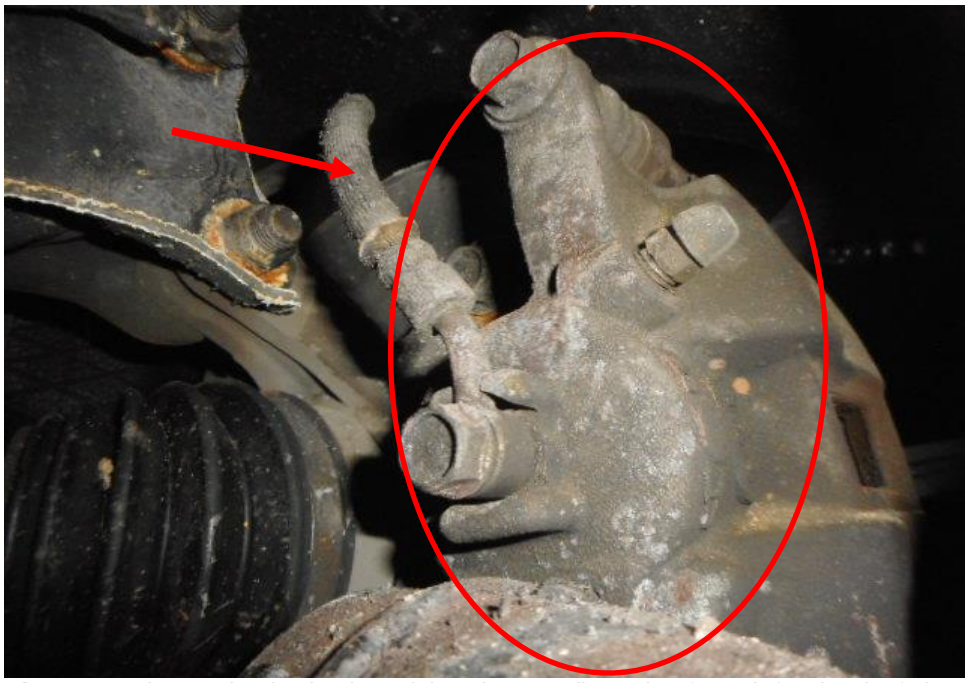


Photo 23 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled) was observed to be intact and without visible damage.

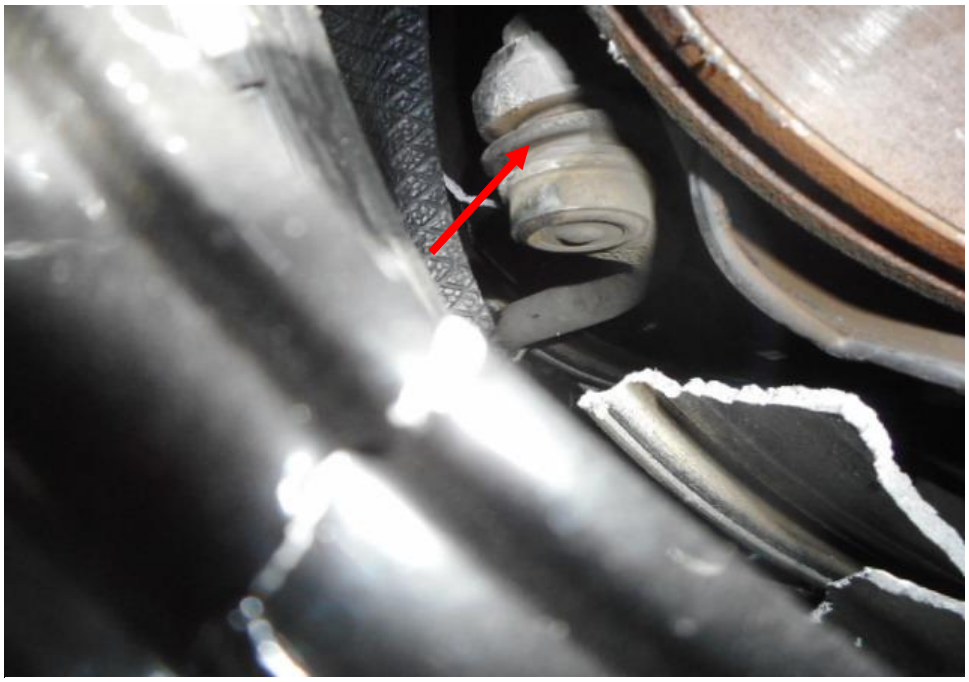


Photo 24 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (arrowed) was observed to be intact and without visible damage.

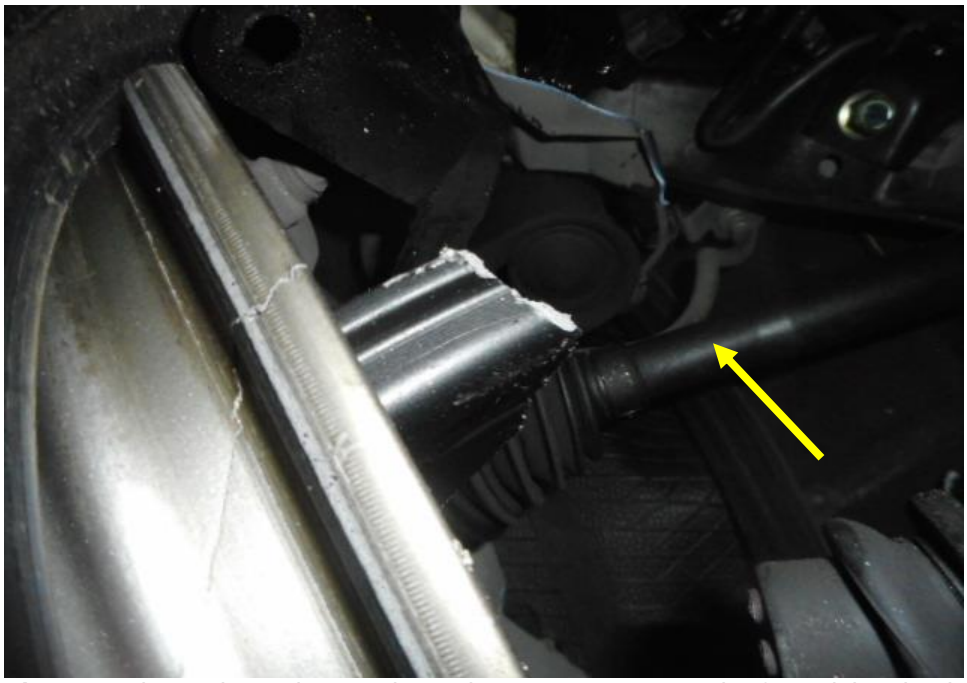


Photo 25 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the driveshaft (arrowed) was observed to be intact and without visible damage.

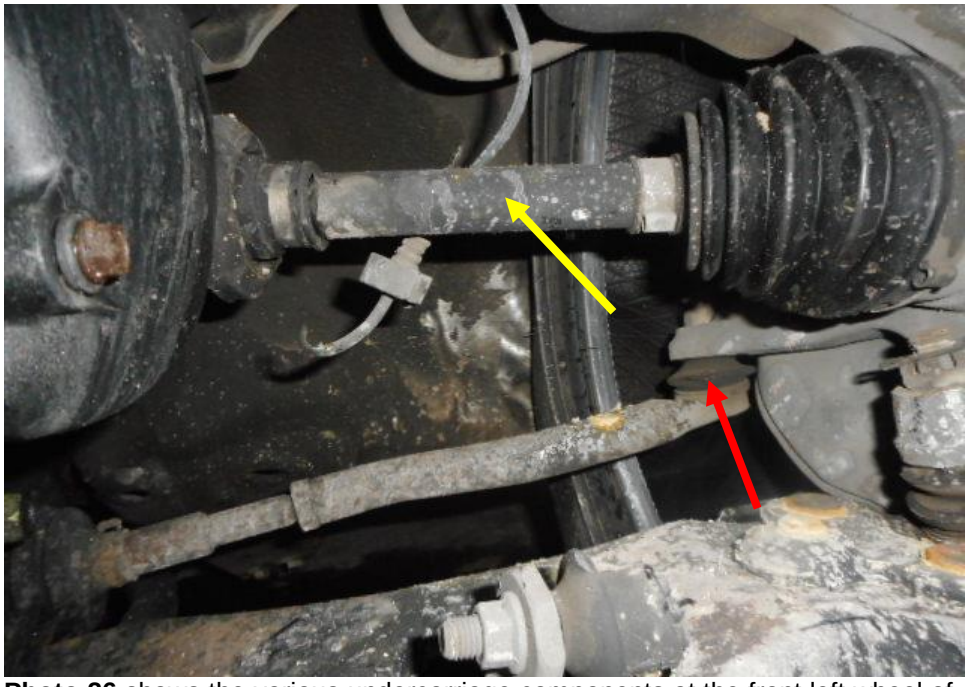


Photo 26 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod end (red arrow) and the driveshaft (yellow arrow). The various undercarriage components of the Motor Car were all found to be intact without any visible damage. There was also no sign of fluid stain(s) observed on the various undercarriage components.

Electronic Safety / Warning Indicators

13. The Motor Car's automatic self-test of the functionality of its various electronic operating systems was not able to be conducted as the engine was not started up due to the damaged the engine sustained from the accident. (unable to be started)

Seat Belts

14. The front right seat belt of the "Motor Car" was worn and left seat belt was not worn at the material time of accident as the respective pre-tensioners that were fitted at the side of each seat was activated upon the material time.. See photo 27 and 28 below.

Photo 27 shows that the seat belt on the right seat was worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.

Photo 28 shows that the seat belt on the left seat was not worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.

Operational Behaviour of the Motor Car

15. Operational test to primarily determine whether there was any abnormality to the engine system, transmission system and braking system of the Motor Car could not be conducted given the engine system of the Motor Car was damaged as a result of the accident.

Conclusion

16. For this particular case, I was unable to determine whether there was any possible mechanical failure to the Motor Car that may have contributed to the accident. The extent of damage that it had sustained had prevented me from carrying out any operational test(s) and/or static test(s) to its engine system, braking system, transmission system, steering system and suspension system.

17. The both front tyres of the Motor Car was observed to be damaged as a result of the accident. However, the both rear tyres 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 both rear tyres. The both rear tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 5.8mm to 6mm. And the both front tyres with remaining tread depth of approximately 6mm to 6.1mm.

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