

Your Ref: TP IP/11422/2023
Our Ref : CI/TPD23006071/P

16th June 2023

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLM 1260Z

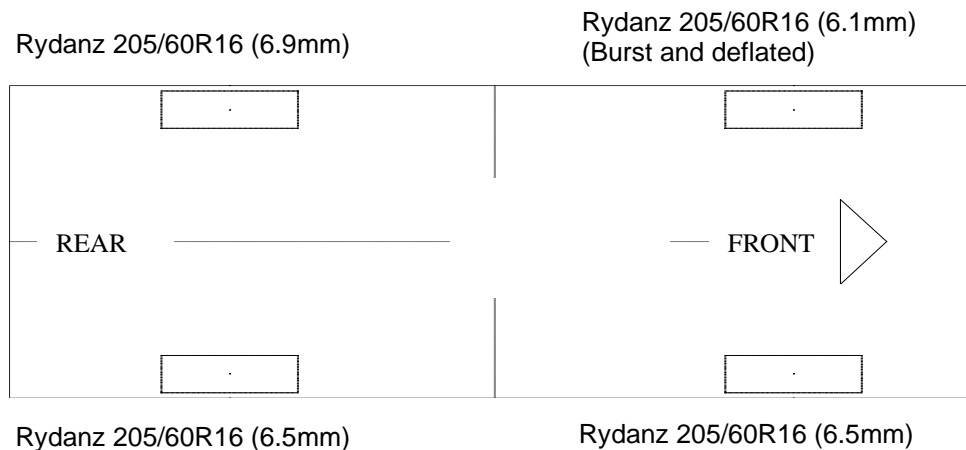
1. I refer to your request on 23rd June 2023 to conduct a physical inspection of a Motor Car bearing registration number SLM 1260Z (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 13th January 2023.
2. The objective of the inspection is to determine if there was 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 14th June 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 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 reinforcement panel, front right and left fender 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 front left tyre was observed to be with burst mark and deflated as a result of the accident. However, the condition of the Motor Car's front right and rear left and right 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:-



7. The front right, left, rear left and right 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 be unaffected 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 panel, front right and left fender 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 bonnet (red circle) and front windscreen (yellow circle) 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 right fender (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 left fender (yellow circle) 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 bumper reinforcement panel (circled) was damaged as a result of the accident.



Photo 7 shows a general view of the Motor Car's right body at the time of my inspection. The right portion front right door (circled) was observed to be removed by SCDF for extraction purpose after the accident.



Photo 8 shows a general view of the Motor Car's right front door at the time of my inspection. The front right door was observed to be removed by SCDF for extraction purpose after the accident.



Photo 9 shows a general view of the Motor Car's left body at the time of my inspection. The left portion front left door (circled) was observed to be removed by SCDF for extraction purpose after the accident.



Photo 10 shows a general view of the Motor Car's left front door at the time of my inspection. The front left door was observed to be removed by SCDF for extraction purpose after the accident.



Photo 11 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 6.5mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



Photo 12 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 6.5mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



Photo 13 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 6.9mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



Photo 14 shows the condition of the front left tyre of the Motor Car, which was observed to be in unserviceable condition with remaining tread depth of approximately 6.1mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be with burst mark and also deflated as a result of the accident.



Photo 15 shows the close up view of the front right tyre of the Motor Car, which was observed to be in unserviceable condition with remaining tread depth of approximately 4mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be cut and also deflated (circled) as a result of the accident.



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 bonnet and the structure of the engine compartment. (Unable to open).
9. During our inspection, we observed that the engine and ignition system was damaged as a result of the induced impact from the accident.
10. My subsequent checks on the underside of the Motor Car also revealed the various undercarriage components of the Motor Car were observed to sustain damages as a result of the accident visually there were signs of fluid leak and fluid stain from the damage components. See photo 17 -21 below.

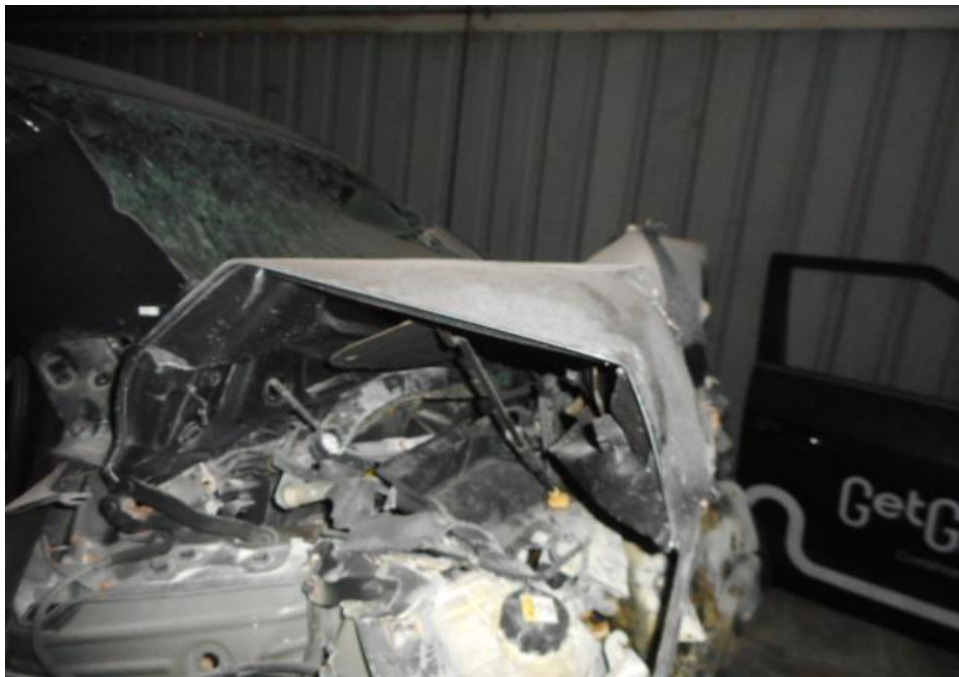


Photo 17 shows the general view of the Motor Car's front bonnet which was damage as a result of the accident causing the bonnet unable to be opened at the time of my inspection. Its engine and components were crushed and damaged as a result of the accident.



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 ignition system battery (circled) was amongst the various components in the engine compartment were also damaged as a result of the accident.

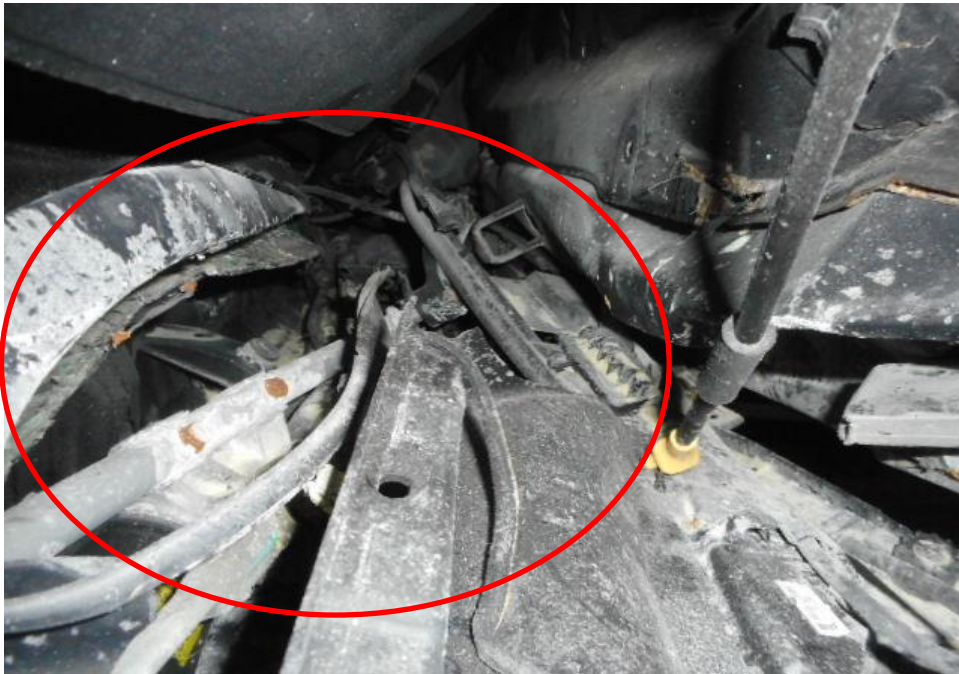


Photo 19 shows the close up view of the Motor Car's front body at the time of my inspection. The Motor Car was observed to have sustained damage at its front portion. Its engine (circled) was amongst the various components in the engine compartments were also damaged as a result of the accident.



Photo 20 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 electrical components (circled) was amongst the various components in the engine compartments were also damaged as a result of the accident.

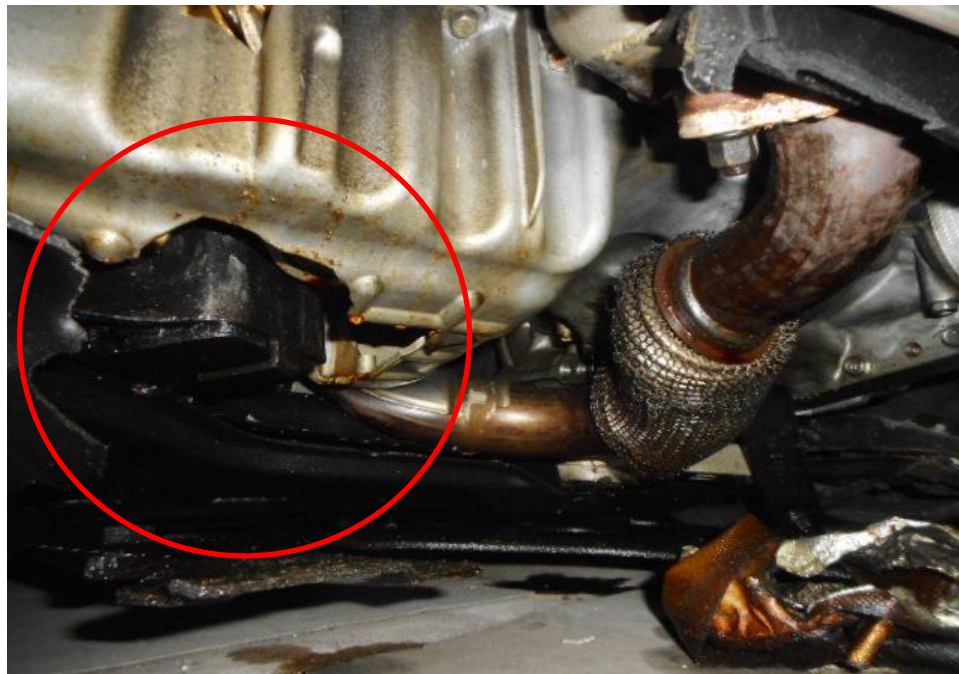


Photo 21 shows the undercarriage of the Motor Car, at the area where the engine housing and transmission housing are located. I observed signs of fluid leak and fluid stain on the underside of the Motor Car as the engine oil sump was damaged as a result of the accident.

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 ignition system and engine is damaged as a result of the accident.
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 generally intact. However, we are not able to fully view the brake caliper and brake hose of the front right wheel as the induced damages to the engine and undercarriage components has blocked the viewing of the braking components. See photo 22 - 29 below.



Photo 22 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 and etc had revealed to be intact and without visible damage.

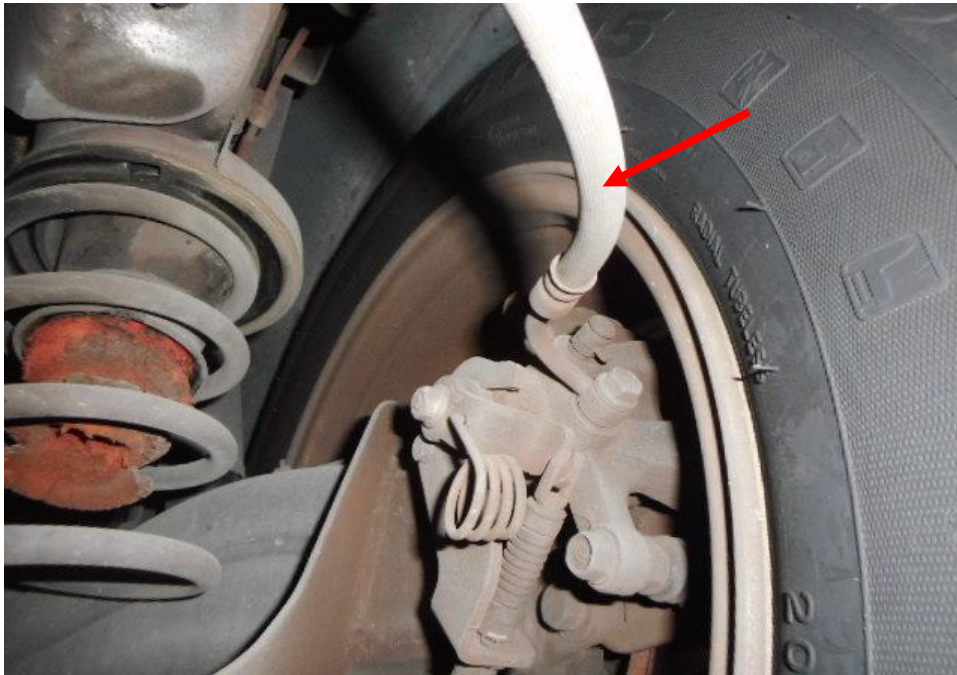


Photo 23 shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper and etc had revealed to be intact and without visible damage.



Photo 24 shows the close up view of the front right wheel rim and tyre, the viewing of the brake caliper and brake hose components at the front right wheel of the Motor Car was blocked due to the induced damages sustained to the engine and undercarriage component (circled) as a result of the accident.

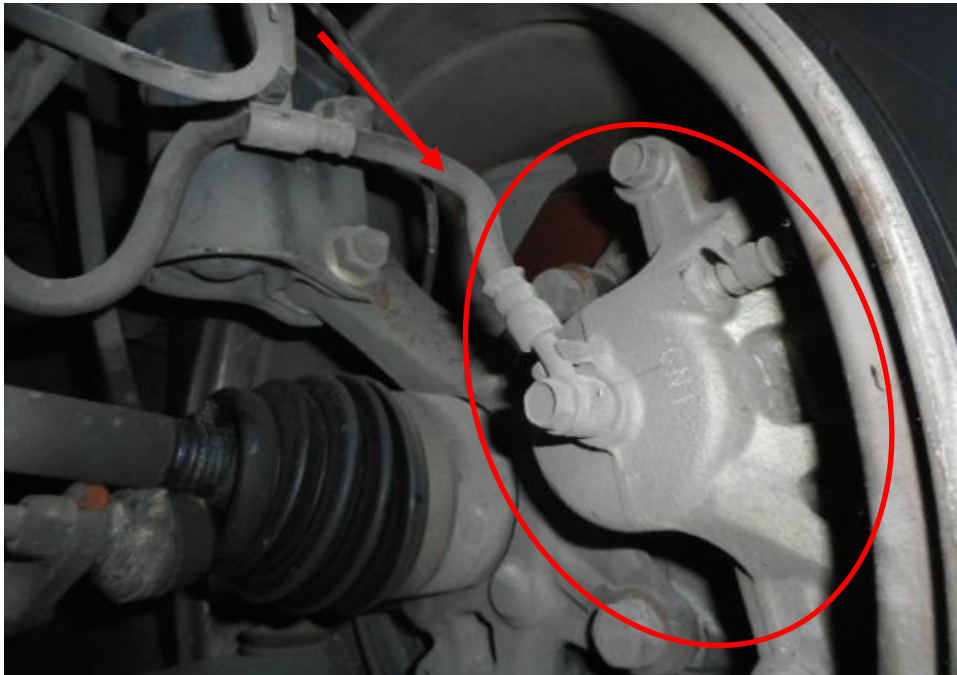


Photo 25 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled) and etc had revealed to be intact and without visible damage.



Photo 26 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod (arrowed). The various steering components were all found to be intact.



Photo 27 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod (red arrow) and the driveshaft (yellow arrow). 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 left wheel of the Motor Car.



Photo 28 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the driveshaft (arrowed) was observed to be damaged and broken off from the engine as a result of the accident.

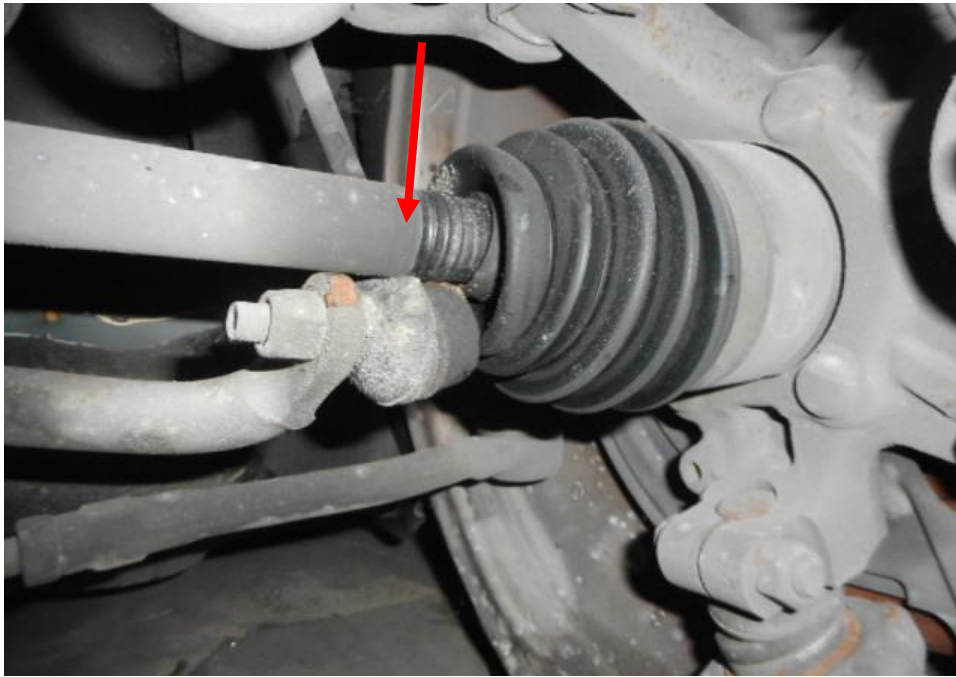


Photo 29 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the driveshaft (arrowed) was observed to be damaged as a result of the accident.

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 and ignition system was damaged as a result of the accident. (unable to be started)

Seat Belts

14. The front right seat belt of the "Motor Car" was worn and it was cut for SCDF rescue extraction purposes and the 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 30 - 32 below.



Photo 30 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 and the seat belt was cut for SCDF rescue extraction purposes.



Photo 31 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 and the seat belt was cut for SCDF rescue extraction purposes.



Photo 32 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 and ignition 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 front left tyre of the Motor Car was observed with burst marks and deflated as result of the accident. However, the front right, rear left and right 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 6.5mm to 6.9mm and the front left tyre with remaining tread depth of approximately 6.1mm



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