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Your Ref: TP/IP/28113/2022 29th November 2022
Our Ref : CI/TPD22010900/P

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLG 5447H

1. I refer to your request on 31th October 2022 to conduct a physical inspection of a Motor car bearing registration number SLG 5447H (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 16th October 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.

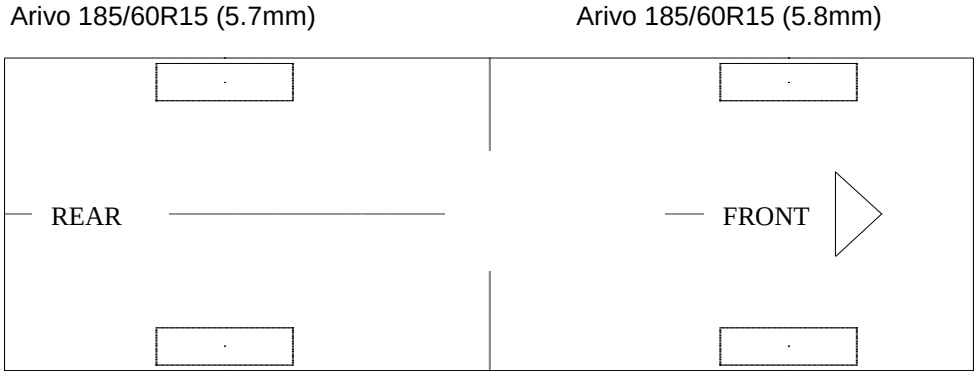
General Condition

4. The mileage of the Motor car was not recorded as the dashboard of was badly damaged and the access to the battery to jumpstart the Motor Car was block due to the result of the accident.

5. The Motor car was observed to have sustained damage all around. Its front windscreen, front bonnet, front bumper, front left fender, front left and right headlamp, Its left doors, left chassis, roof panel, rear windscreen, rear boot, rear bumper and both rear brake lamps was amongst the body parts that were 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 4 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 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:-



7. The 4 tyres were observed to be wrapped around alloy wheel rims that were found to be without any damage. See photo 1 – 18 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 sustain damages as a result of the accident. Its rear windscreen, rear boot, rear bumper, rear both brake lamps were damaged as a result of the accident.

Photo 2 shows a close up view of the Motor Car's rear body at the time of my inspection. The rear portion of the Motor Car was observed to sustain damages as a result of the accident. Its rear windscreen (circled) were damaged as a result of the accident.

Photo 3 shows a close up view of the Motor Car's rear body at the time of my inspection. The rear portion of the Motor Car was observed to sustain damages as a result of the accident. Its rear boot (circled) and rear left brake lamp (arrowed) were damaged as a result of the accident.

Photo 4 shows a close up view of the Motor Car's rear body at the time of my inspection. The rear portion of the Motor Car was observed to sustain damages as a result of the accident. Its rear bumper (circled) and rear right brake lamp (arrowed) were damaged as a result of the accident.

Photo 5 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 and roof portion. Its front windscreen, front bonnet, front bumper, front left fender, front left, right headlamp and roof panel was amongst the body parts that were damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.

Photo 6 shows the close up view of the Motor Car's front body and roof panel at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its front windscreen (circled) and front panel (arrowed) was 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 bonnet (circled) was damaged as a result of the accident.

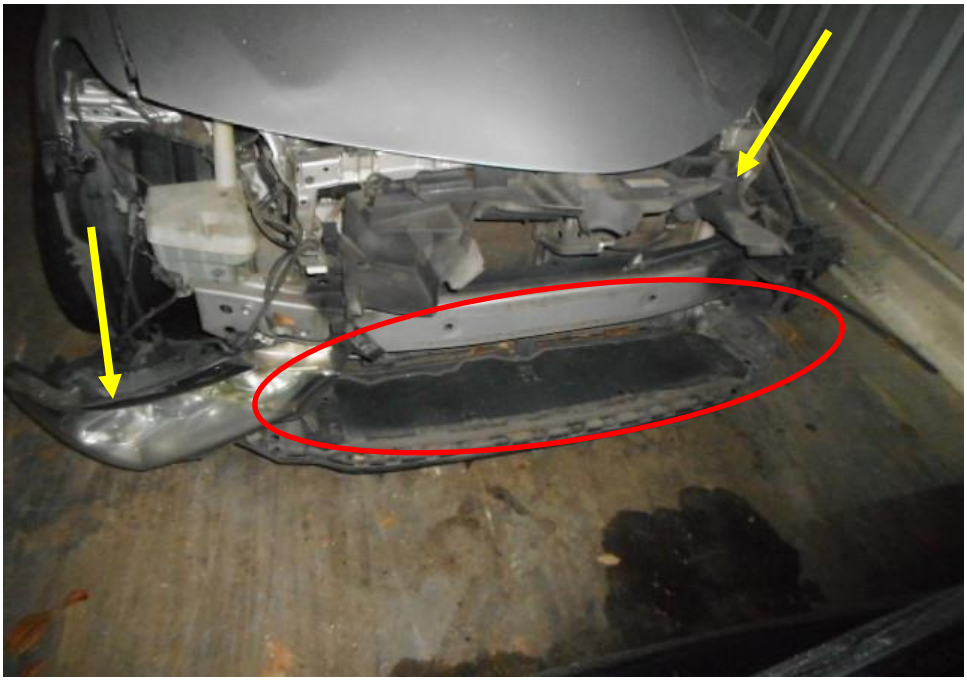


Photo 8 shows the close up view of the Motor Car's front body at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its front bumper (circled) and its front left and right headlamps (arrowed) was damaged as a result of the accident.

Photo 9 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 amongst the body part damaged as a result of the accident.

Photo 10 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 due to the accident.

Photo 11 shows a general view of the Motor Car's left body at the time of my inspection. The Motor car was observed to have sustained damage at its left portion. Its left doors and left chassis was amongst the body parts damaged as a result of the accident.

Photo 12 shows the close up view of the Motor Car's left body at the time of my inspection. The Motor car was observed to have sustained damage at its left portion. Its right doors (red circle) and left chassis (yellow circle) was amongst the body parts damaged as a result of the accident.

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 5.7mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

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 6mm. 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 5.7m. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

Photo 16 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 5.8mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

Photo 17 shows a close up view of the Motor Car's dashboard at the time of my inspection. Its dashboard (circled) was observed to be damaged as a result of the accident.

Photo 18 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 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 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 19 -20 below.

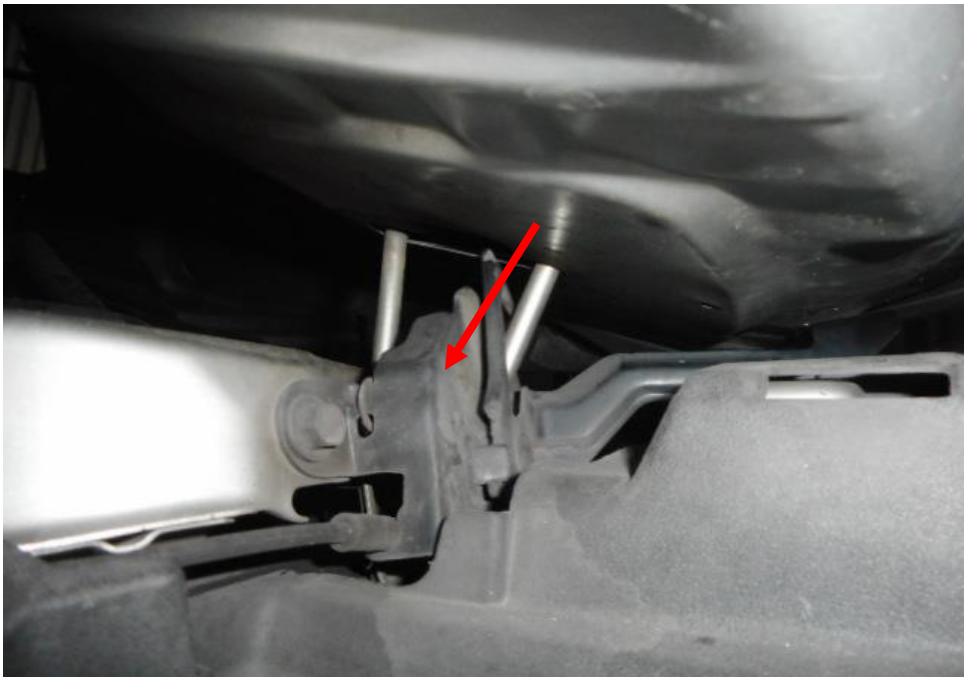


Photo 19 shows the close up view of the damaged front bonnet lock mechanism (arrowed) and the structure of the engine compartment of the Motor Car at the time of my inspection resulting it unable to open a result of the accident. (Unable to open)

Photo 20 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. 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 as a result of the accident. (Unable to be started)

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 only the front left tie rod was observed to be damaged as a result of the accident, however all the other components were all generally intact. See photo 21 - 26 below.

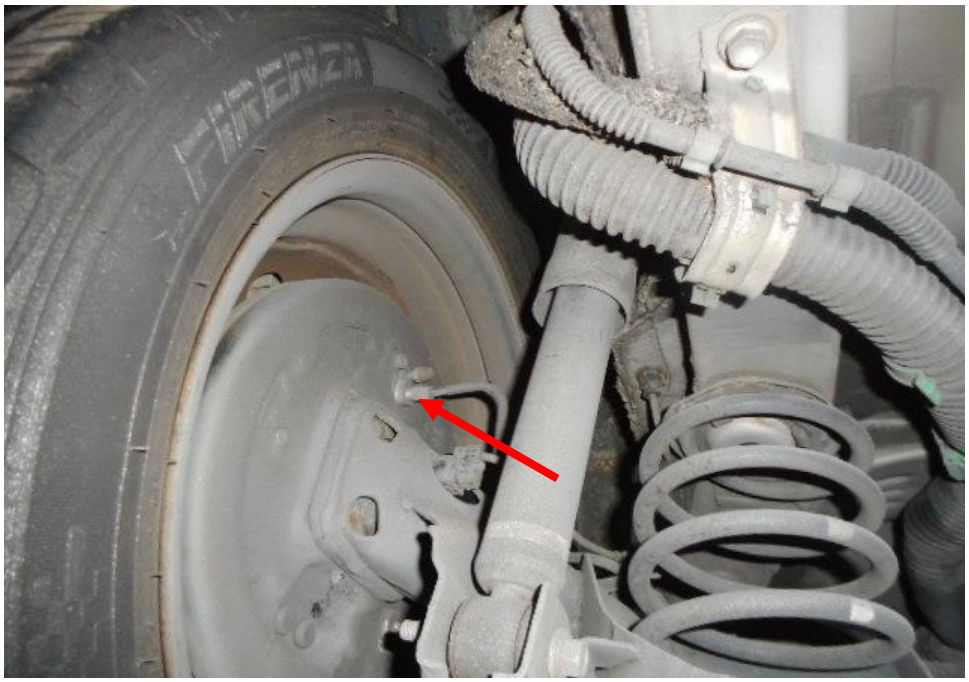


Photo 21 shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake drum to be intact and without visible damage.

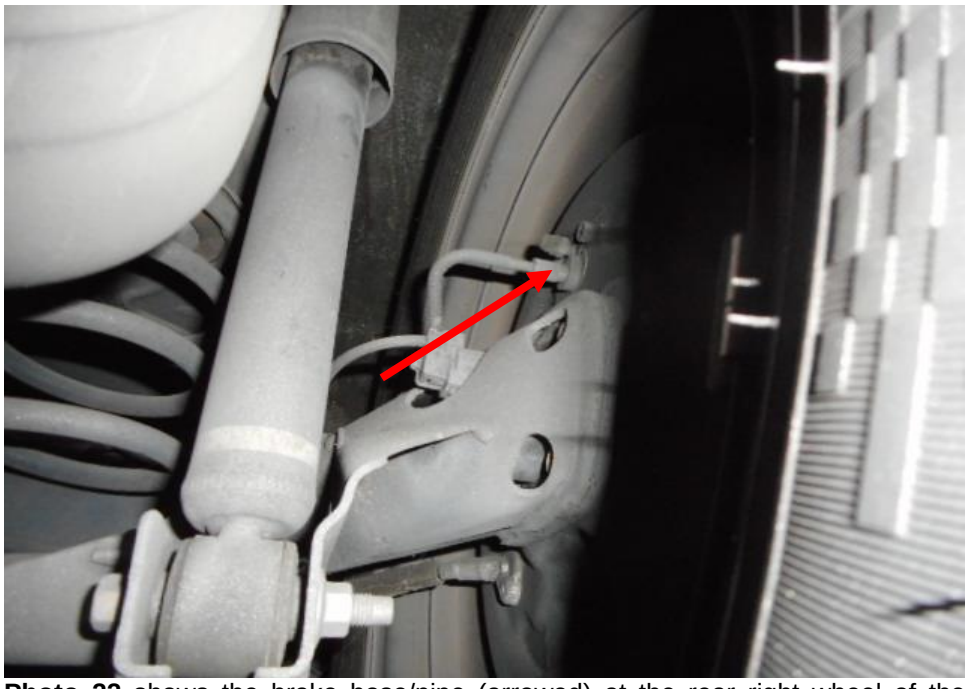


Photo 22 shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake drum to be intact and without visible damage.

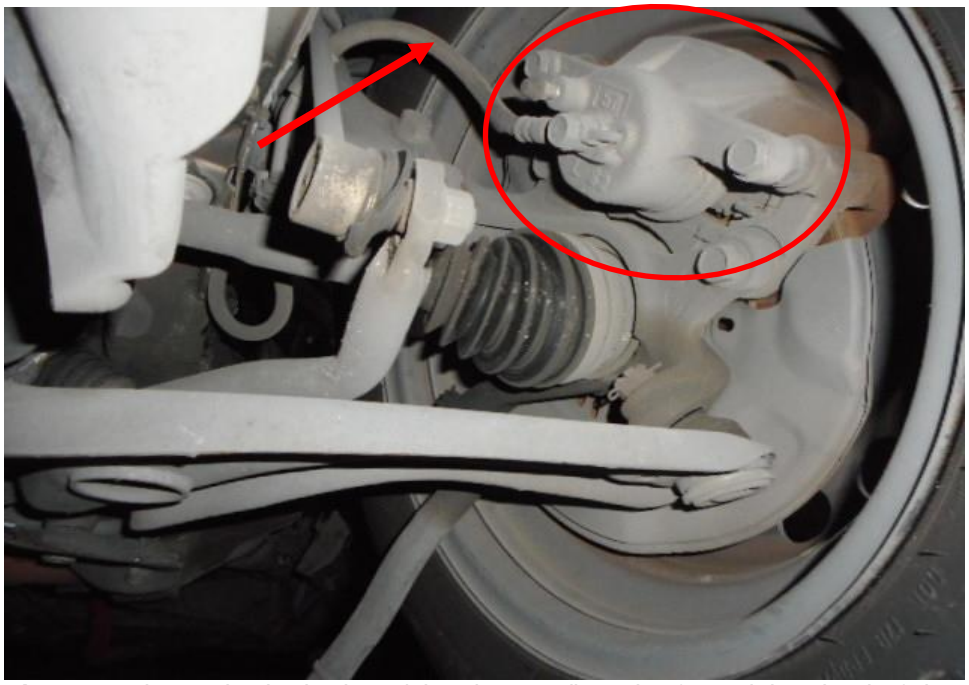


Photo 23 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car. Visual examination of the various components of the braking system the brake caliper (circled) to be intact and without visible damage.

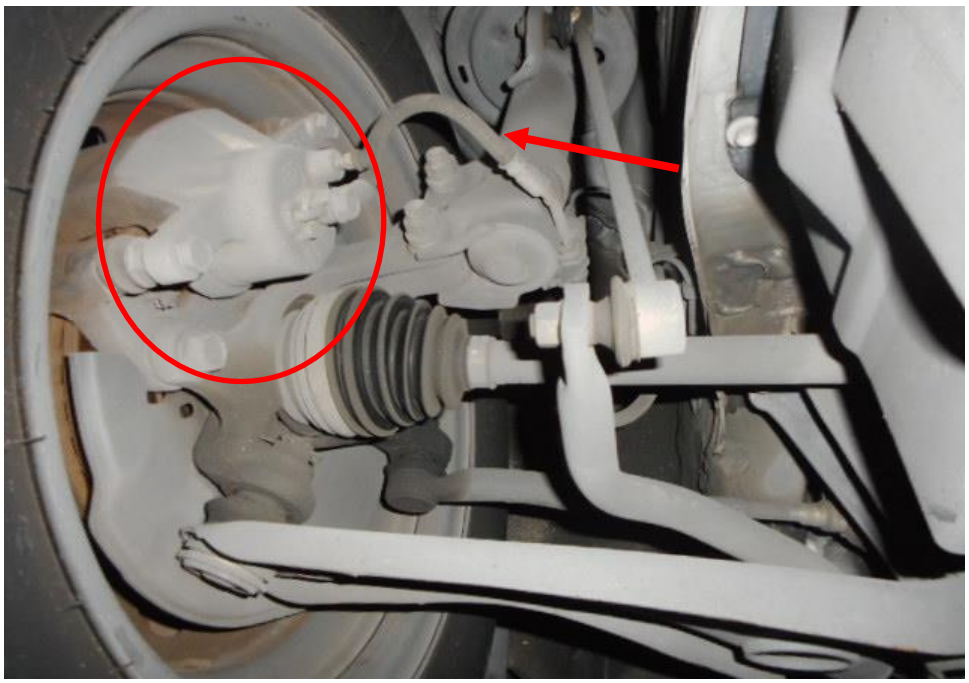


Photo 24 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage.

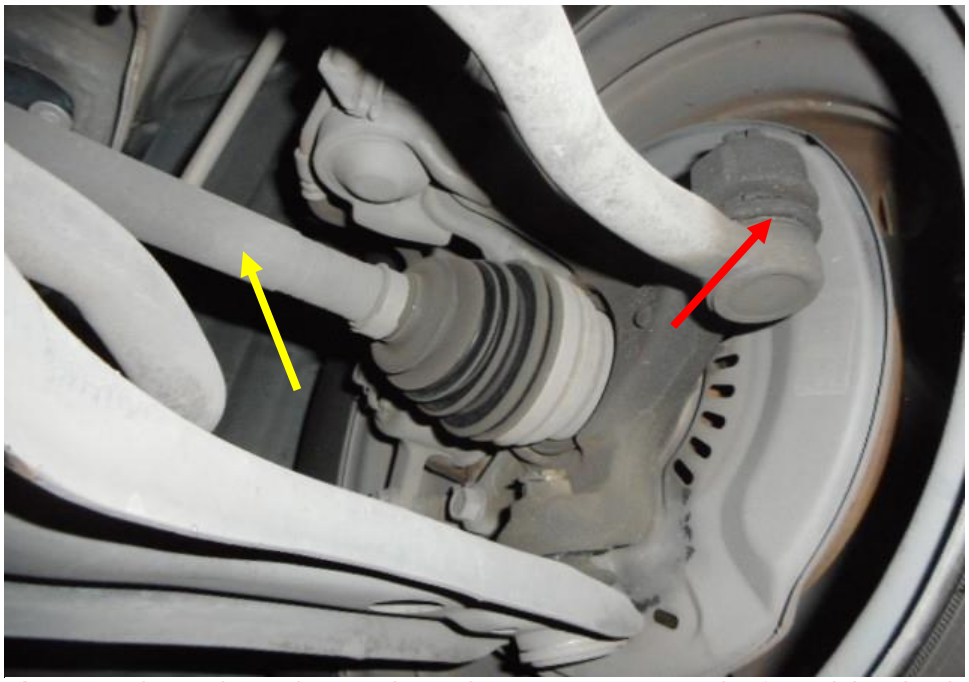


Photo 25 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (red arrow) and the driveshaft (yellow arrow). The various steering components were all found to be intact, suggesting that the steering system of the Motor Car was likely to be in serviceable condition at the material time of accident. There was also no sign of fluid stain observed on the various undercarriage components at the front right wheel of the Motor Car.

Photo 26 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod end (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 was not started up as the access to the battery was blocked. (unable to be started)

Seat Belts

14. The front right was observed to be 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. The left seat belt of the "Motor Car" was unable to check as the seat belt of the right seat was observed to be cut and the left seat belt was observed to be missing at the time of our inspection. See photo 27 and 28 below.

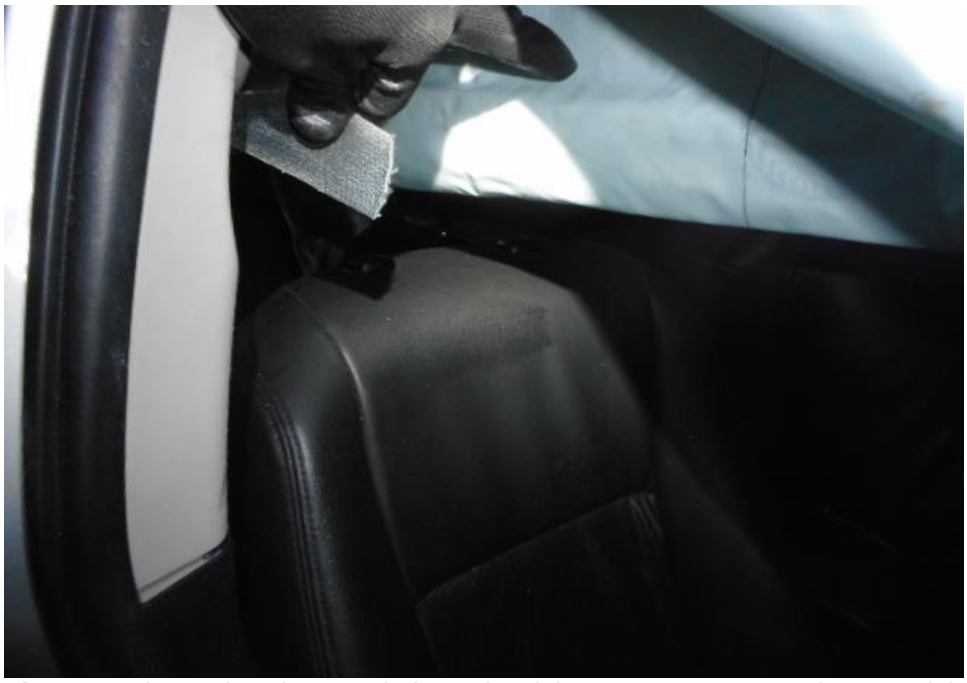


Photo 27 shows that the seat belt on the right seat was worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.

Photo 28 shows that the seat belt on the left seat was observed to be missing at the time of our inspection.

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 was unable to be started, the chassis was damaged and the front left steering tie rod was also 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 4 tyres of the Motor Car 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 4 tyres. The 4 tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 5.7mm to 6mm.

Sherwin Beh
Technical Investigator

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