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Your Ref: TP/IP/32285/2022
Our Ref : CI/TPD23003224/P

6th March 2023

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SMK 7207M

1. I refer to your request on 7th March 2023 to conduct a physical inspection of a Motor car bearing registration number SMK 7207M (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 30th November 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 29th March 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.

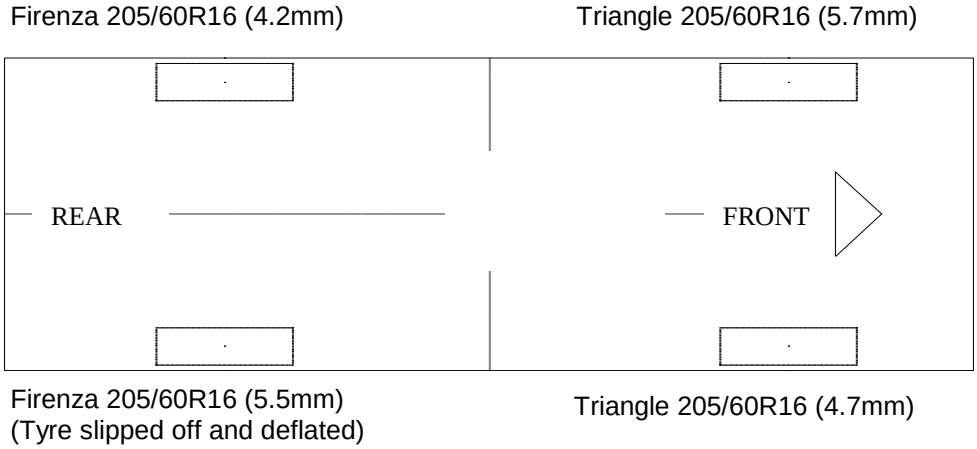
General Condition

4. The mileage of the Motor Car at the time of my inspection was not record as the engine of the vehicle was unable to be jumpstarted up despite multiple attempts in jumpstarting it.

5. The Motor car was observed to have sustained damage at its left and vehicle chassis portion. Its left doors, left rear view mirror and left vehicle chassis was amongst the body parts 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. Only the right rear tyre was observed to slip off the wheel rim and deflated due to the induced impact as result of the accident however, the other 3 tyres were 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 right rear tyre was observed to slip off the wheel rim however it was observed to be no sustain any damage. The other 3 tyres were observed to be wrapped around 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 front 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 left and vehicle chassis portion. Its left doors, left rear view mirror and left vehicle chassis was amongst the body parts 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 left body at the time of my inspection. The Motor car was observed to have sustained damage at its left portion. Its left door (red circle) and its left rear view mirror (yellow circle) was damaged as a result of the accident.

Photo 4 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 left door (circled) was damaged as a result of the accident.

Photo 5 shows the close up view of the Motor Car's left vehicle chassis portion at the time of my inspection. The Motor car was observed to have sustained damage at its chassis portion. Its left chassis (circled) was damaged as a result of the accident.

Photo 6 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 undamaged by the accident.

Photo 7 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 8 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 4.7mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

Photo 9 shows the condition of the rear right tyre and wheel rim of the Motor Car, which was observed to slip off the wheel rim and deflated (circled) due to the induce impact sustained as a result of the accident. The remaining tread depth is approximately 5.5mm.

Photo 10 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 11 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 4.2mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

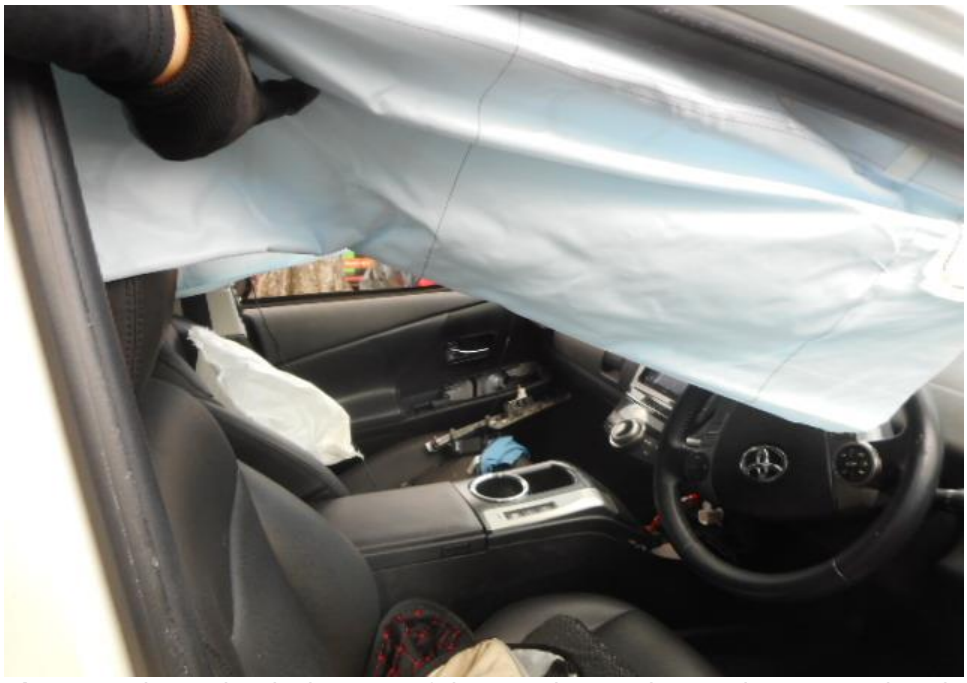


Photo 12 shows the deployment of the Supplemental Restraint System (SRS) airbag in the Motor Car as a result of the accident.

Engine Compartment & Operating Fluids

8. Upon examination of the engine compartment of the Motor Car, I had observed all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid, 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.

9. The examination of the engine compartment revealed no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment 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 -17 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.

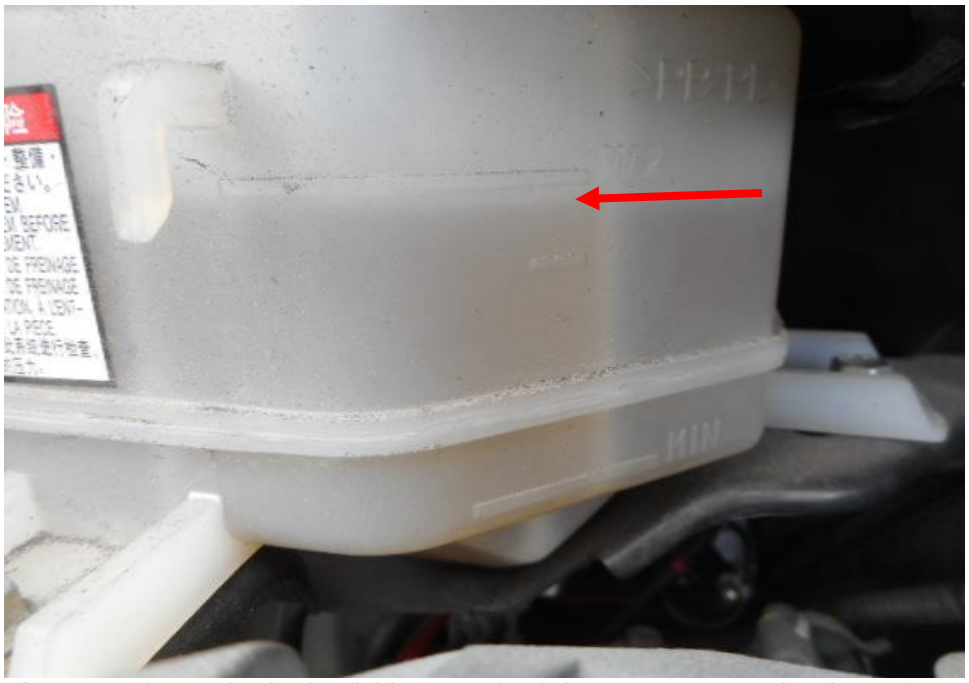


Photo 14 shows the brake fluid reservoir of the Motor Car at the time of my inspection. The brake fluid was observed to be of sufficient level (arrowed) and without any visible contamination.

Photo 15 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 16 shows the engine oil dip stick 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 17 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, however the engine was unable to be started up despite multiple times in jumpstarting it. (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 that these components were all generally intact. See photo 18 - 24 below.

Photo 18 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 drum brake, brake booster, brake pedal etc. had revealed all to be intact and without visible damage.

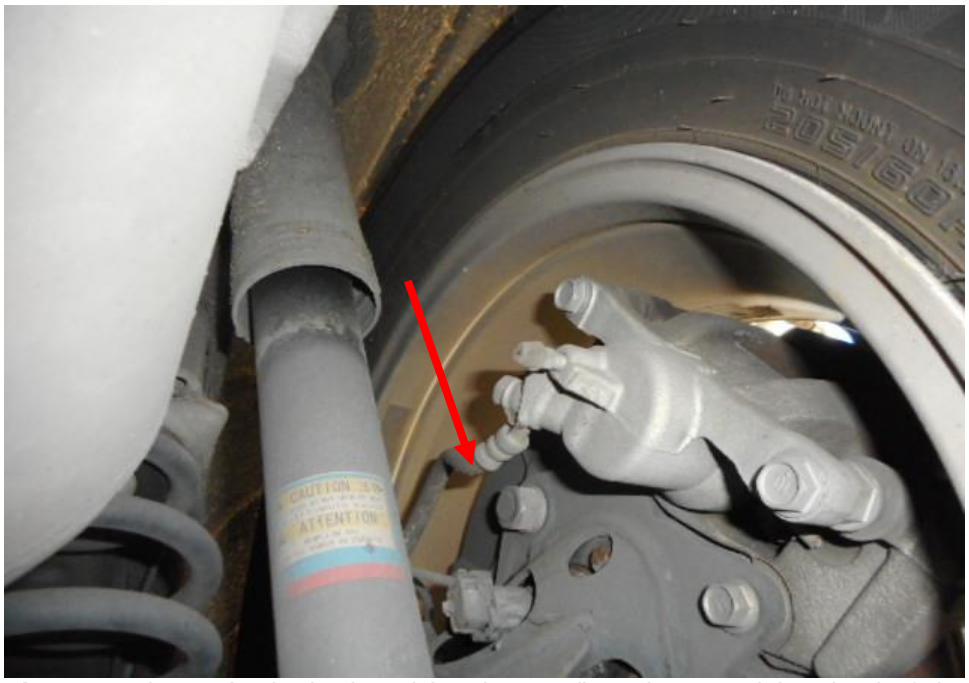


Photo 19 shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the drum brake, brake booster, brake pedal etc. had revealed all to be intact and without visible damage.

Photo 20 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. Static tests of the Motor Car's braking system had indicated that there was no internal leakage of pressure/vacuum.

Photo 21 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.

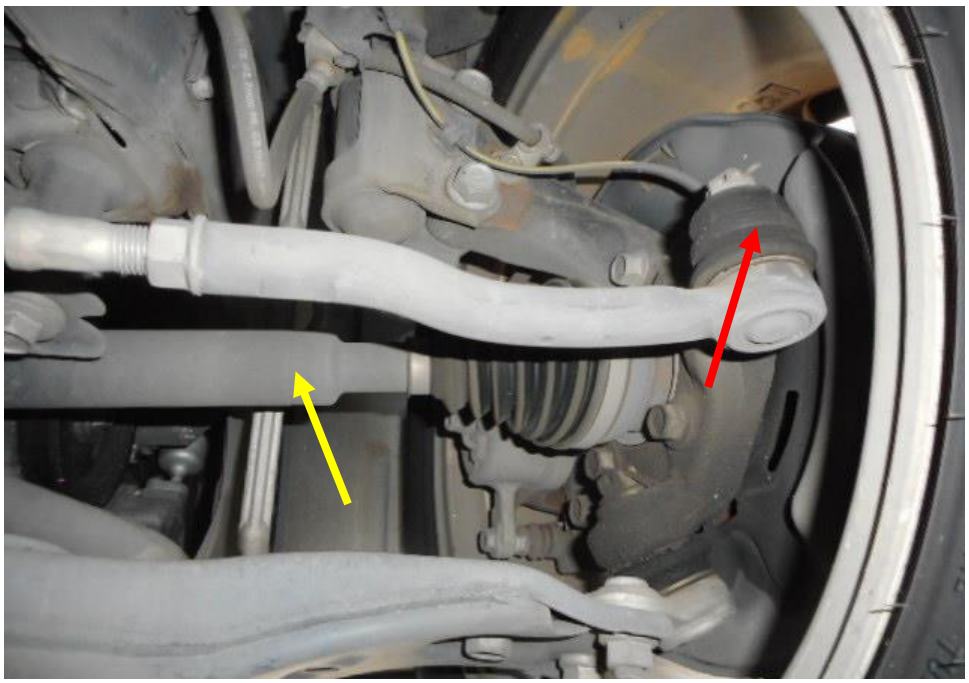


Photo 22 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (red arrow) and the driveshaft (yellow arrow). The various steering components were all found to be intact, suggesting that the steering system of the Motor Car was likely 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 23 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod end (arrowed). 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.

Photo 24 shows the jumpstarting of the Motor Car using a jump starter. The engine of the Motor Car was unable to be started up despite multiple attempts in jumpstarting it.

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 unable to be started up. (unable to be started)

Seat Belts

14. The "Motor Car" front 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. And the front right seat belt was able to be fasten in the pre-tensioners. See photo 25 and 26 below.

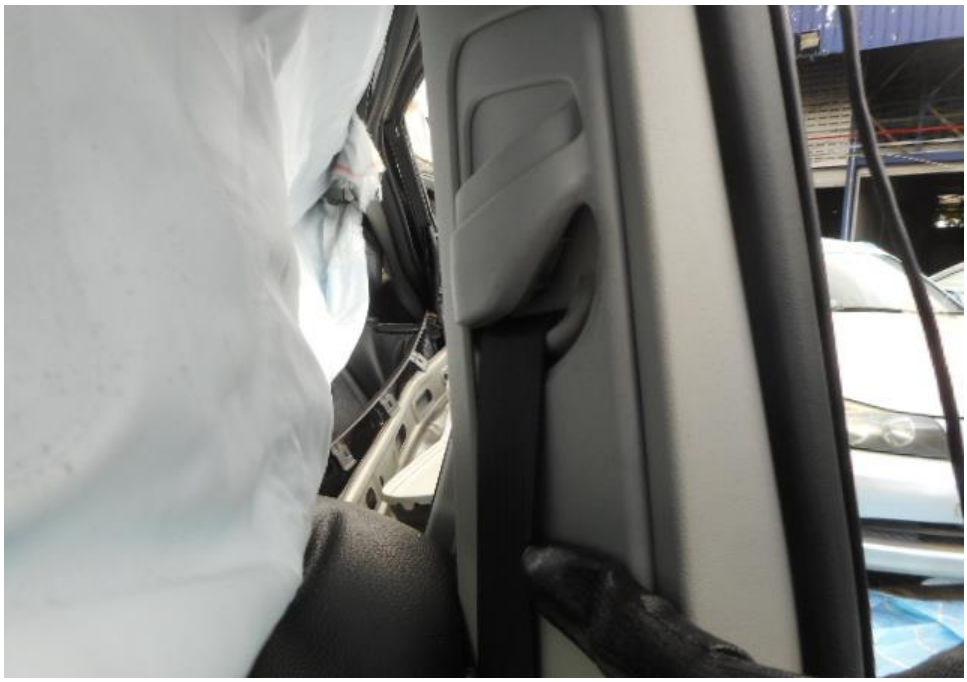


Photo 25 shows that the seat belt on the left seat was not worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.

Photo 26 shows that the seat belt on the right seat 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. 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 of the Motor Car was unable to be started up.

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. In general our visual inspection of the mechanical components of the Motor Car's braking and steering system appear to be intact and there was no leakage found at the braking and steering components of the Motor Car.

18. The rear right right tyre was observed to slip off the wheel rim and deflated as a result of the accident, however the other 4 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 4 tyres. The 3 tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 4.2mm to 5.5mm.

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