

Your Ref: TP IP/08541/2023  
Our Ref : CI/TPD23005780/P

31<sup>st</sup> July 2023

**General Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF MOTOR CAR SMW 2883E**

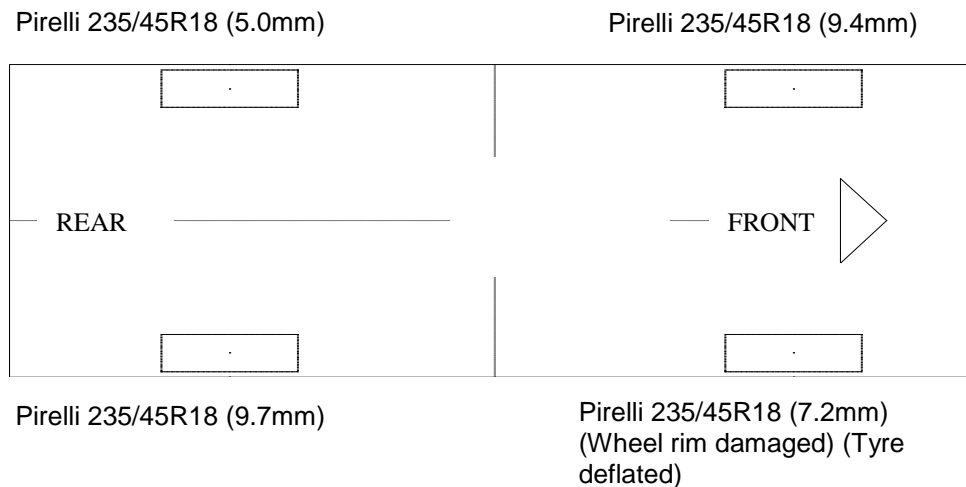
1. I refer to your request on 28<sup>th</sup> April 2023 to conduct a physical inspection of a Motor car bearing registration number SMW 2883E (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 24<sup>th</sup> March 2023.
2. The objective of the inspection is to 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 24<sup>th</sup> July 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 due to damages sustained to the engine as a 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 right and left headlamp, its left and right door panels, roof panel, sunroof panel rear bumper 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 front right wheel rims was observed to be damaged and causing the front right tyre to be deflated as a result of the accident. 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 front right and both rear 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 front right wheel rim was observed to be damaged as a result of the accident. However, the 3 front right and both rear tyres were observed to be wrapped around alloy wheel rims that were found to be without any damage. See photo 1 – 21 below.



**Photo 1** shows a general view of the Motor Car's front body at the time of my inspection. The front windscreen, front bonnet, front bumper, front left fender, front right and left headlamp, Its left and right door panels, roof panel, rear windscreen 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 2** 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) was damaged 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 (circled) was damaged as a result of the accident.



**Photo 4** shows the close up view of the Motor Car's top body and roof panel at the time of my inspection. The Motor car was observed to have sustained damage at its top portion. Its roof and sunroof panel (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), its front right headlamp (red arrow) and its front left headlamp (yellow arrow) 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 fender (circled) was amongst the body part 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 Motor car was observed to have sustained damage at its right portion. Its rear right rear view mirror, rear right door and rear right quarter panel was amongst the body parts damaged as a result of the accident.



**Photo 8** shows a close up view of the Motor Car's right body at the time of my inspection. The Motor car was observed to have sustained damage at its right portion. Its rear right rear view mirror (circled) was amongst the body parts damaged as a result of the accident.



**Photo 9** shows a close up view of the Motor Car's right body at the time of my inspection. The Motor car was observed to have sustained damage at its right portion. Its rear right door was amongst the body parts damaged as a result of the accident.



**Photo 10** shows a close up view of the Motor Car's right body at the time of my inspection. The Motor car was observed to have sustained damage at its right portion. Its right rear quarter panel was amongst the body parts damaged as a result of the accident.



**Photo 11** shows a general view of the Motor Car's left 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 front left rear view mirror, front left door, rear left door and rear left quarter panel were damaged as a result of the accident.



**Photo 12** shows a 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 rear view mirror (circled) was amongst the body parts damaged as a result of the accident.





**Photo 13** shows a 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 front left door was amongst the body parts damaged as a result of the accident.



**Photo 14** shows a 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 rear left door and rear left quarter panel (circled) was amongst the body parts damaged as a result of the accident.



**Photo 15** 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) was damaged as a result of the accident.



**Photo 16** shows the condition of the front right tyre of the Motor Car, which was observed to be in unserviceable condition with remaining tread depth of approximately 7.2mm. The tyre was also observed to be deflated as a result of the damaged wheel rim as a result of the accident, however there was no tear, cut or burst mark(s) on the tyre.



**Photo 17** shows the condition of the front right tyre and wheel rim of the Motor Car, the tyre was also observed to be deflated (arrowed) as a result of the damaged wheel rim (arrowed) as a result of the accident, however there was no tear, cut or burst mark(s) observed on the tyre.



**Photo 18** 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 9.7mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).





**Photo 19** 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 5.0mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



**Photo 20** 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 5.9mm. The tyre was also observed to be deflated as a result of the damaged wheel rim as a result of the accident, however there was no tear, cut or burst mark(s) on the tyre.





**Photo 21** 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 that the Motor Car's engine was badly damaged and crushed as a result of the accident.
9. 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 22 and 23 below.



**Photo 22** shows a general view of the Motor Car's engine compartment. I had observed that the Motor Car's engine (circled) was badly damaged and crushed as a result of the accident.



**Photo 23** shows the undercarriage of the Motor Car, at the area where the engine housing and transmission housing are located. I observed signs of engine oil (arrowed) on the underside of the Motor Car.

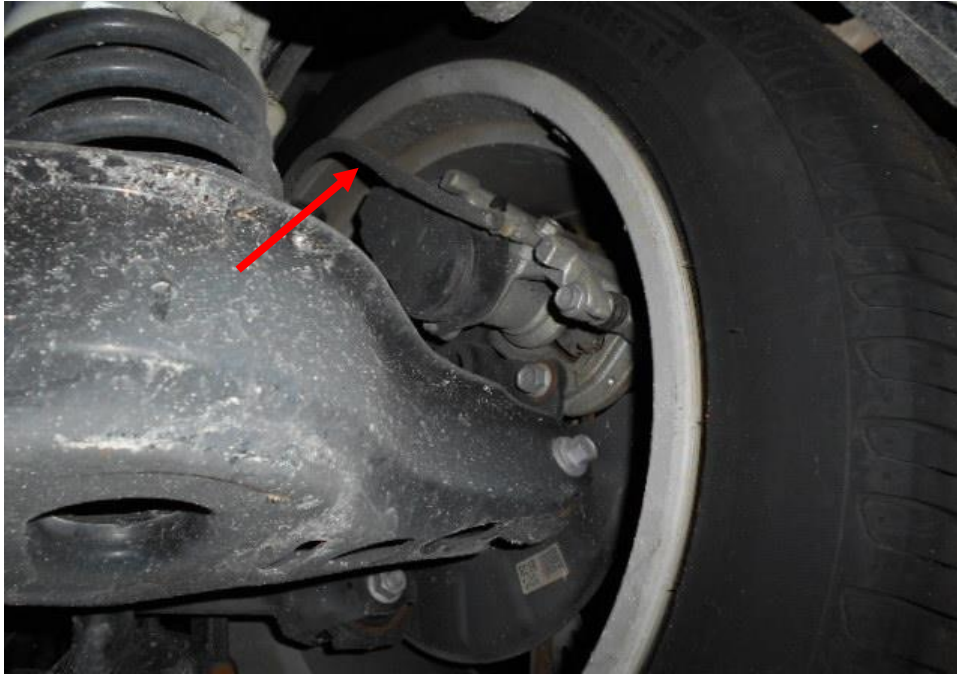
## Braking System & Steering System

10. 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)
11. 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 24 - 29 below.

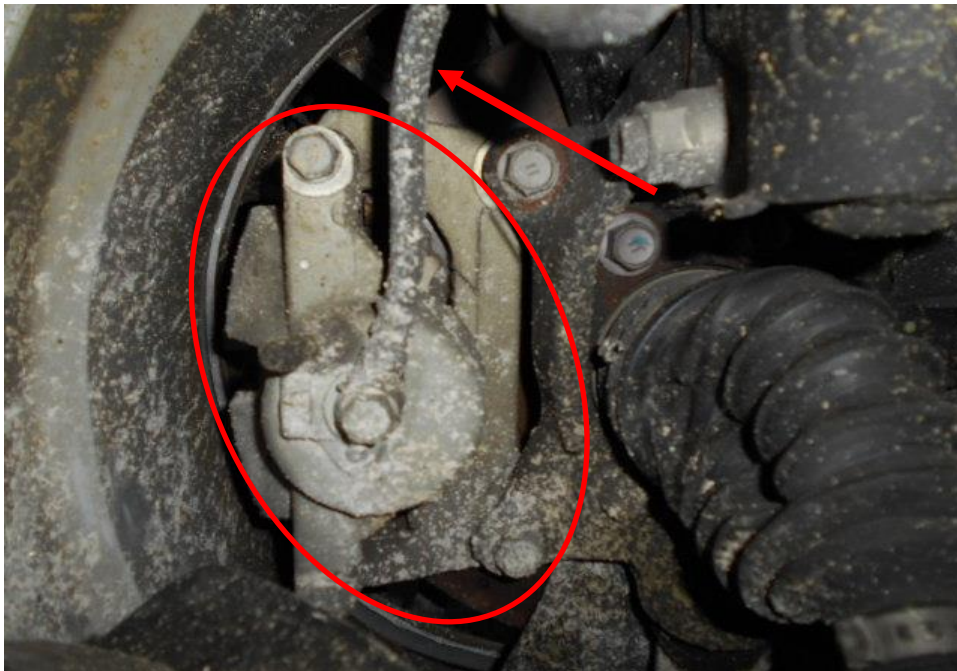


**Photo 24** shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper to be intact without visible damage.



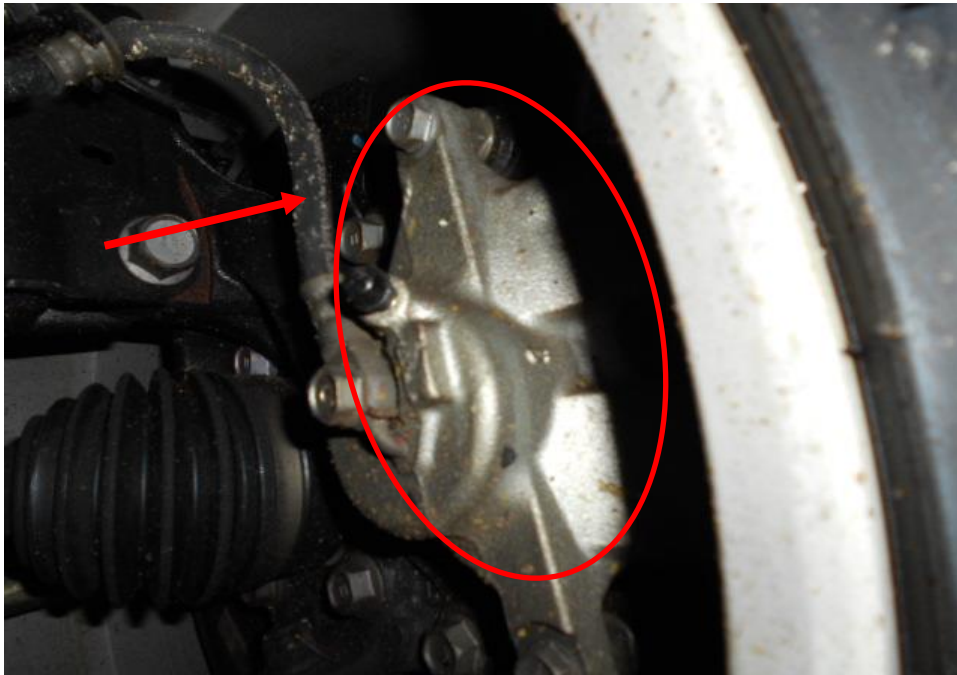


**Photo 25** shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper to be intact without visible damage.

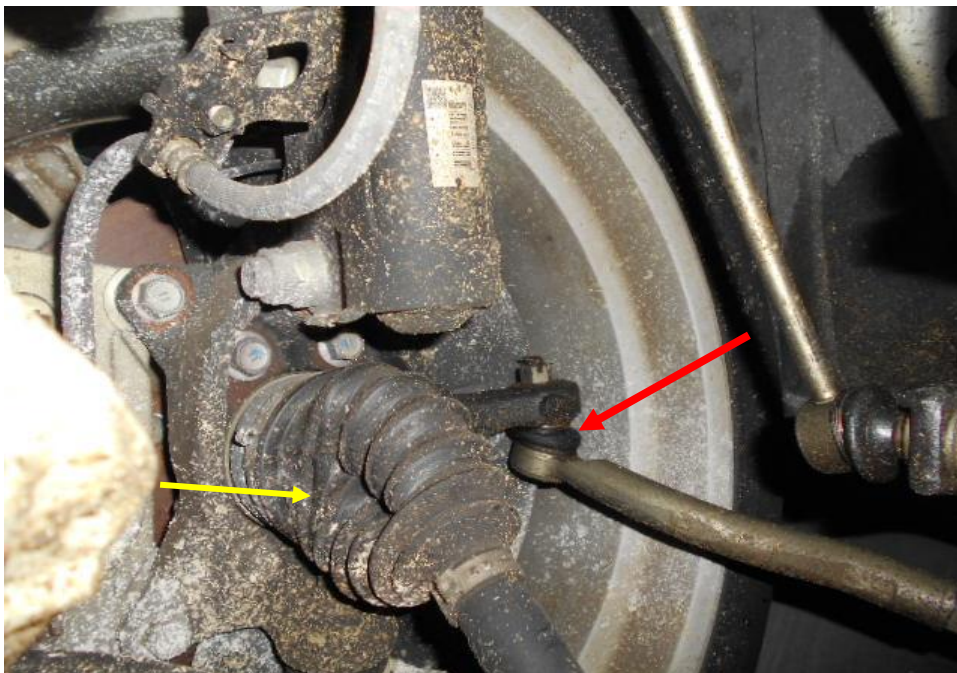


**Photo 26** shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car. Visual examination of the various components of the braking system the brake caliper (circled) to be intact without visible damage.





**Photo 27** 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) had revealed to be intact and without visible damage.



**Photo 28** 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 front right driveshaft was appeared to be damaged as a result of the accident. However, the steering tie rod appears to be intact without visible damage.



**Photo 29** 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.

### **Electronic Safety / Warning Indicators**

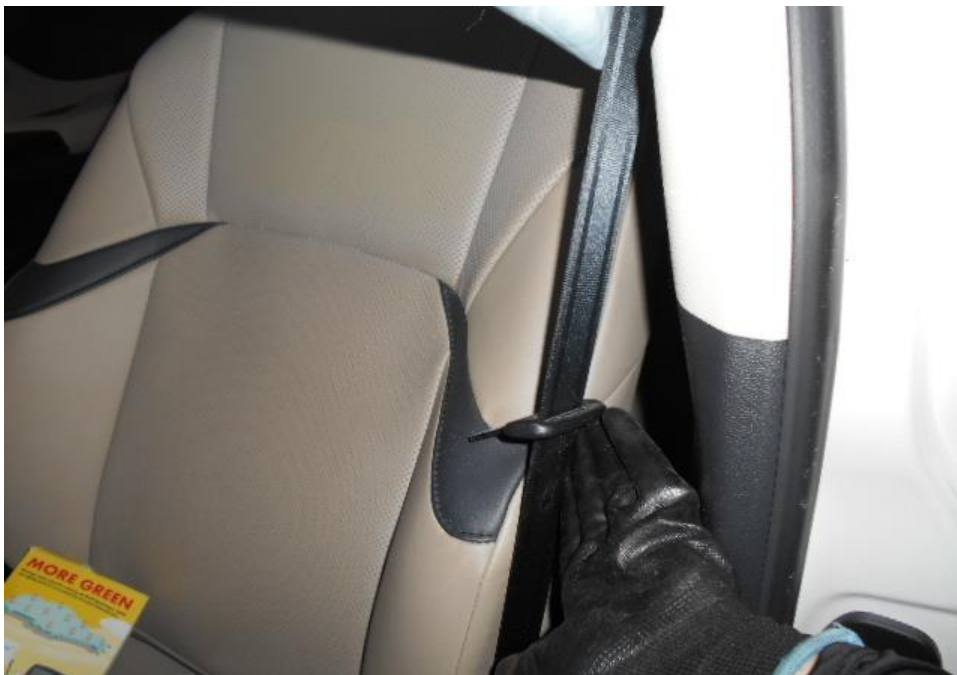
12. The Motor Car's automatic self-test of the functionality of its various electronic operating systems was not able to be conducted as the engine was badly damaged and crushed as a result of the accident.

### **Seat Belts**

13. The front right seat belt of the "Motor Car" was observed to be worn and the front left seat belt of the "Motor Car" was not worn as the respective pre-tensioners that were fitted at the side of each seat was activated upon the material time of accident. See photo 30 and 31 below.



**Photo 30** shows that the front right seat belt 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 31** shows that the front left seat belt 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

14. 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 that the engine was damaged and crushed as a result of the accident.

## Conclusion

15. 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.
16. The front right wheel rim was observed to be damaged and causing the front right tyre to be deflated as a result of the accident. 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 3 front right and both rear tyres were observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 5mm to 9.7mm. The front right tyre was observed to be with remaining tread depth of approximately 7.2mm.



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