

Your Ref: TP/IP/01105/2023  
Our Ref : CI/TPD23001590/P

9<sup>th</sup> March 2023

**Fatal Accident Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF MOTOR CAR SLT 2012E**

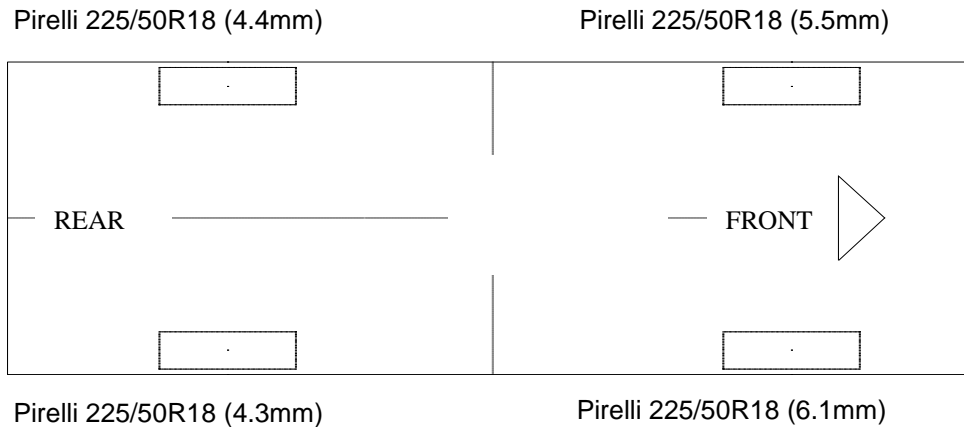
1. I refer to your request on 7<sup>th</sup> February 2023 to conduct a physical inspection of a Motor car bearing registration number SLT 2012E (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 12<sup>th</sup> January 2023.
2. The objective of the inspection is 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 22<sup>nd</sup> February 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 all around. Its front windscreen, front bonnet, front left and right fender, its left and right doors, rear windscreen, rear boot, rear bumper and right rear brake lamp 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 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 – 19 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 and right rear brake lamp 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 (red circle) and rear boot (yellow arrow) 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 bumper (circled) 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 right brake lamp (circled) 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 portion. Its front windscreen, front bonnet, front left and right fender, 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) 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 right fender (circled) was amongst the body part 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 left 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 Motor car was observed to have sustained damage at its right portion. Its right doors (circled) was amongst the body parts damaged as a result of the accident.





**Photo 11** 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 doors (circled) was amongst the body parts damaged as a result of the accident.



**Photo 12** 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 door panel (circled) was amongst the body parts damaged as a result of the accident.





**Photo 13** 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 right portion. Its left doors (circled) 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 right portion. Its left doors (circled) was amongst the body parts damaged as a result of the accident.



**Photo 15** 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 6.1mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.



**Photo 16** 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 4.3mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).





**Photo 17** 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 4.4mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



**Photo 18** 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 5.5mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



**Photo 19** 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 examination of the engine compartment of the Motor Car, I had observed we observed that the engine and ignition system was damaged as a result of the induced impact from the accident. However, we were able to inspect the brake fluid were found to be of sufficient level for operating purposes. Visually, there was also no contamination found to the fluid.
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 20 -26 below.





**Photo 20** shows a general view of the Motor Car's engine compartment. The various parts and components inside the engine compartment were observed that the engine and ignition system was damaged as a result of the induced impact from the accident.



**Photo 21** 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 components (circled) was amongst the various components in the engine compartments were also damaged as a result of the accident.



**Photo 22** 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 components (circled) was amongst the various components in the engine compartments were also damaged as a result of the accident.



**Photo 23** 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 (circled) was amongst the various components in the engine compartments were also damaged as a result of the accident.





**Photo 24** 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 compartments were also damaged as a result of the accident.



**Photo 25** 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 26** shows the undercarriage of the Motor Car, at the area where the engine housing and transmission housing are located. I found engine oil leakage on the underside of the Motor Car 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.
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 both front left and right driveshaft was observed to be damaged as a result of the accident, however all the other components were all generally intact. See photo 27 - 33 below.





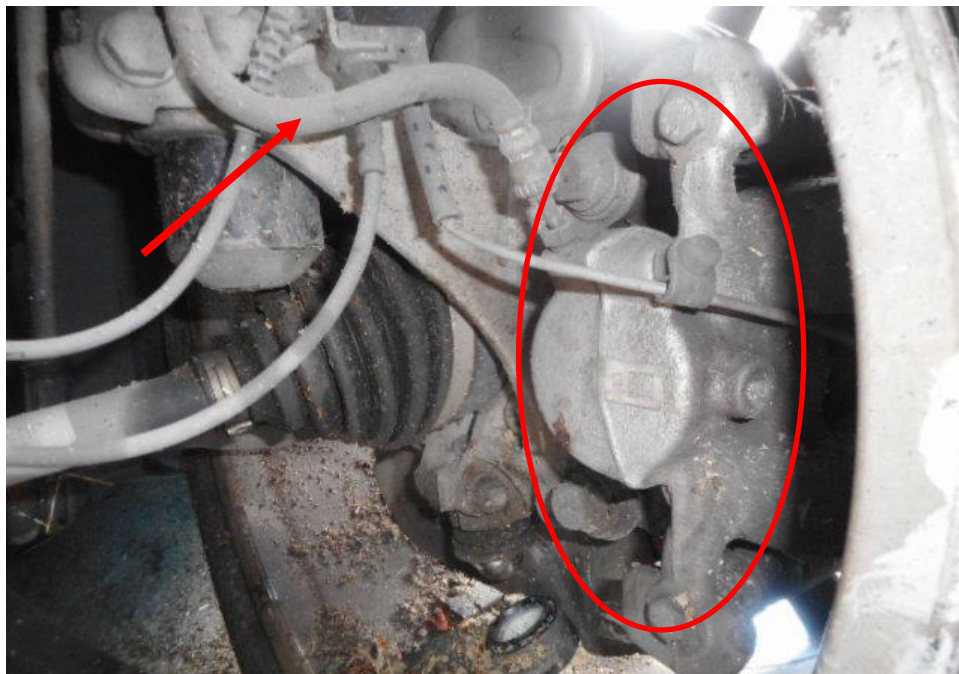
**Photo 27** shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caplier to be intact and without visible damage.



**Photo 28** 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 caplier to be intact and without visible damage.

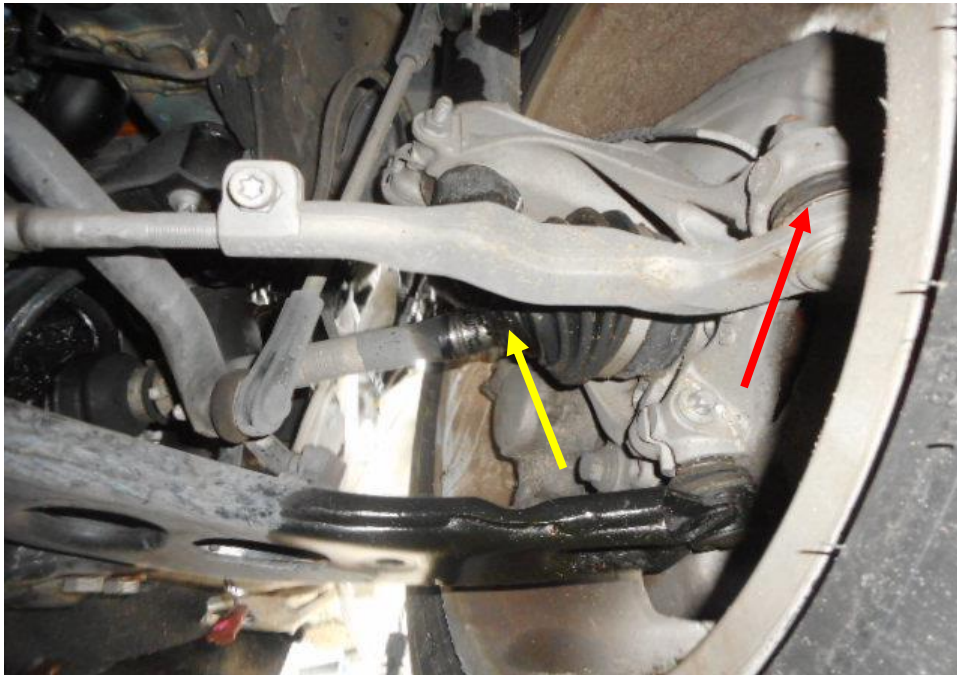


**Photo 29** shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car. Visual examination of the various components of the braking system the brake caliper (circled) to be intact and without visible damage.

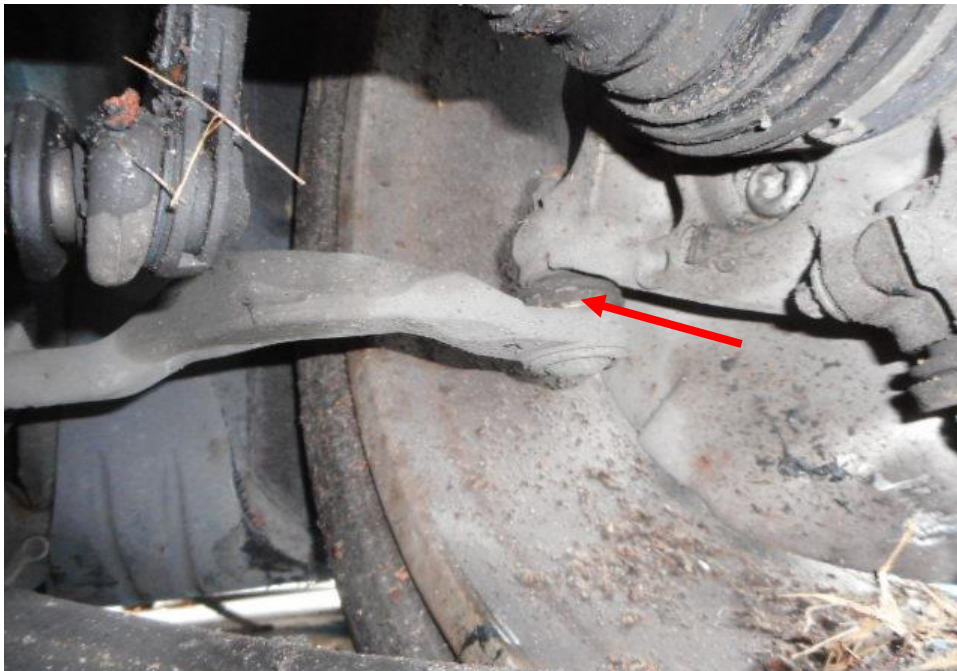


**Photo 30** shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage.

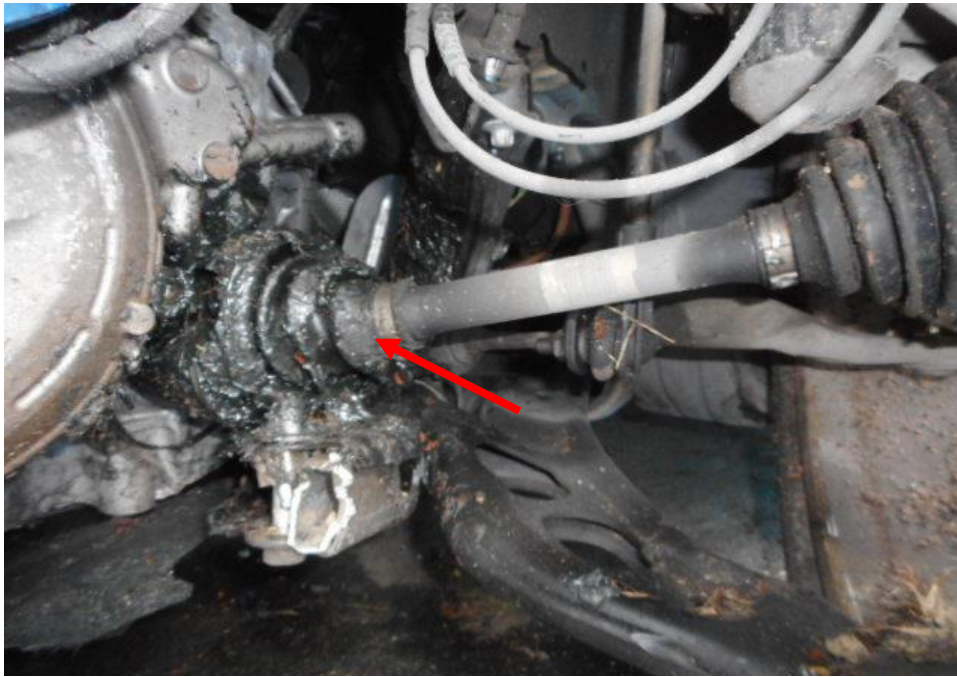




**Photo 31** shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (red arrow) the various steering components were all found to be intact, however the driveshaft (yellow arrow) was observed to be damaged as a result of the accident.



**Photo 32** shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (arrowed) were found to be intact.



**Photo 33** shows the various undercarriage components at the front right 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)

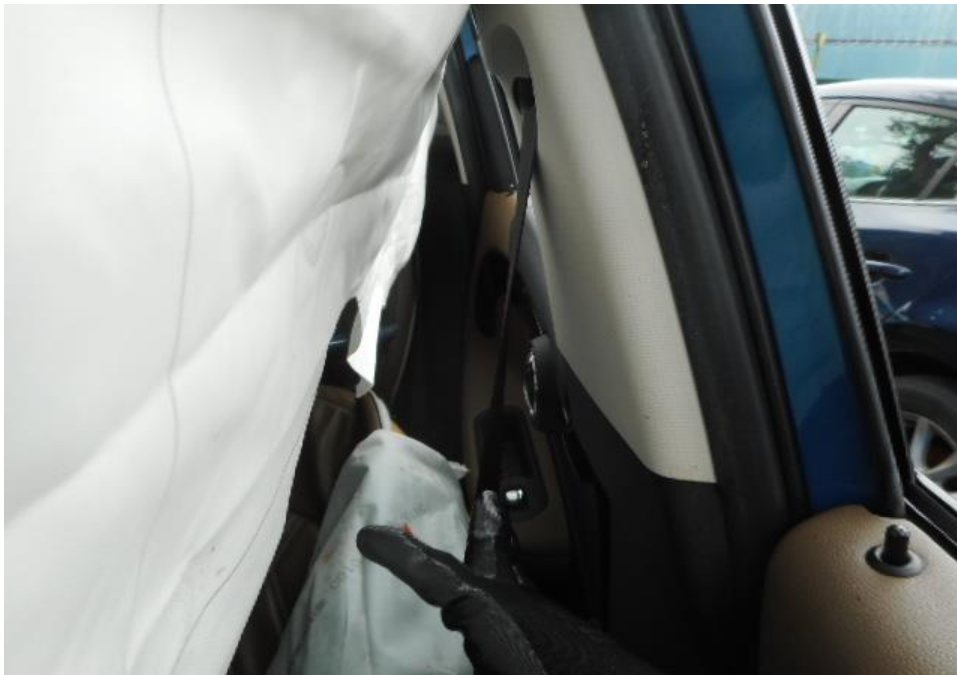
### **Seat Belts**

14. The front right seat belt of the "Motor Car" was worn and the front left 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 34 and 35 below.





**Photo 34** 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 35** 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 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 4.3mm to 6.1mm.



**Sherwin Beh**

*Technical Investigator*



**Ang Bryan Tani**

*AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA*

*Senior Technical Investigator*

*Technical Investigation & Reconstructionist (SAE-A)*

**DISCLAIMER OF LIABILITY TO THIRD PARTIES:** - This Report is made solely for the use and benefit of the Client named on the front page of this Report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report, in whole or in part does so at his or her own risk.