

Your Ref: TP/IP/15465/2021
Our Ref : CI/TPD21004897/P

24th June 2021

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLS 5842L

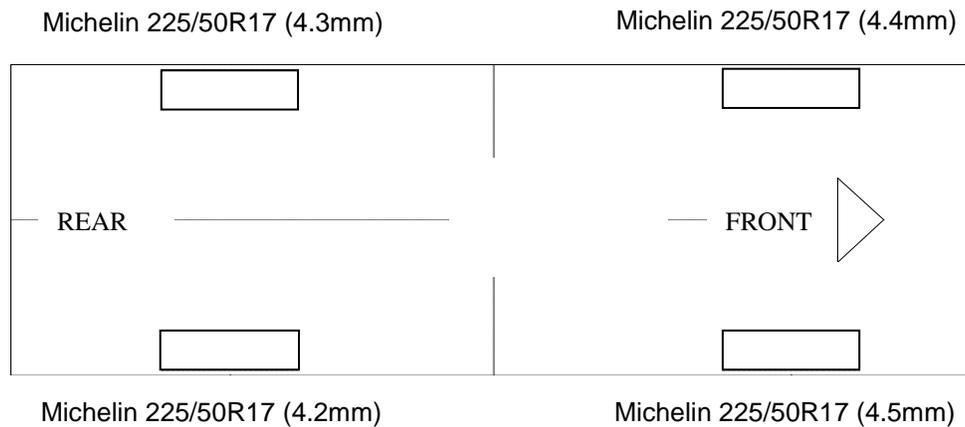
1. I refer to your request on 19th April 2021 to conduct a physical inspection of a Motor Car bearing registration number SLS 5842L (herein referred to as "**Motor Car**"), which was involved in a road traffic accident.
2. The objective of this inspection is to determine if there was any possible mechanical 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 22nd June 2021 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 recorded at 79,141km. However, the engine of the Motor Car was unable to be started up despite multiple attempts in jumpstarting it.
5. The Motor car was observed to have sustained damage around the whole vehicle. Its front portion; front windscreen, front bonnet, front left fender, front bumper and front left headlamp. Its right portion; right door. Its rear portion; rear windscreen, rear left brake lamp, rear boot and rear bumper. Its left portion; door panels and windscreen. Its roof portion; roof panel. These are the body parts that were damaged 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. The 4 tyres were also observed to be sufficiently inflated for vehicular operation. 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 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 standard alloy wheel rims that were found to be without any damage. See photo 1 – 19 below.



Photo 1 shows the mileage of the Motor Car at the time of my inspection. The mileage observed was 79,141km.



Photo 2 shows a general view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage around the whole vehicle. Its front portion; front windscreen, front bonnet, front left fender, front bumper and front left headlamp. Its right portion; right door. Its rear portion; rear windscreen, rear left brake lamp, rear boot and rear bumper. Its left portion; body panels and windscreens. Its roof portion; roof panel. These are the body parts that were damaged as a result of the accident.



Photo 3 shows a close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its front portion. Its front windscreen (circled) was the body part that were damaged as a result of the accident.



Photo 4 shows a close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its front portion. Its front bonnet (red arrow) and front left fender (yellow arrow) was damaged as a result of the accident.



Photo 5 shows a close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its front portion. Its front bumper (yellow arrow) and front left headlamp (red arrow) was the body part that were damaged as a result of the accident.

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108



Photo 6 shows a general view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its right portion. Its right door was damaged as a result of the accident.



Photo 7 shows the close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its right portion. Its right door (arrowed) was damaged as a result of the accident.

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108



Photo 8 shows a general view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its rear portion. Its rear windscreen, rear left brake lamp, rear boot and rear bumper was damaged as a result of the accident.



Photo 9 shows a close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its rear portion. Its rear windscreen (circled) was damaged as a result of the accident.

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108



Photo 10 shows a close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its rear portion. Its rear left brake lamp (yellow arrow), rear boot (circled) and rear bumper (red arrow) was the body part that were damaged as a result of the accident.

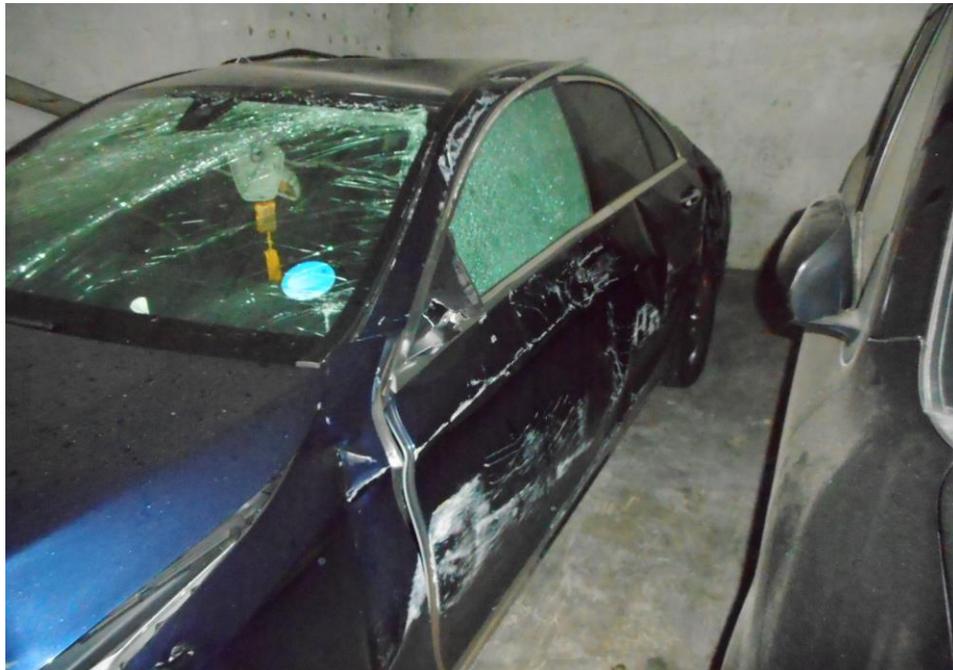


Photo 11 shows a general view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its left portion. Its left door panels and windscreen was damaged as a result of the accident.

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108



Photo 12 shows a close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its left portion. Its left door panels (circled) and windscreen (arrowed) was the body part that were damaged as a result of the accident.



Photo 13 shows a close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its left portion. Its left door panels (circled) was damaged as a result of the accident.

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108



Photo 14 shows a general view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its roof portion. Its roof panel was damaged as a result of the accident.



Photo 15 shows a close up view of the Motor Car at the time of my inspection. The Motor Car was observed to have sustained damage at its roof portion. Its roof panel (circled) was damaged as a result of the accident.

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108



Photo 16 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 4.5mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres that were fitted on the Motor Car.



Photo 17 shows the condition of the rear tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4.2mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres that were fitted on the Motor Car.



Photo 18 shows the condition of the rear left tyres of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4.3mm. The tyres, which were wrapped around standard alloy wheel rim, were also observed to be sufficiently inflated for vehicular operation. There was also no damage found on all 4 alloy wheel rims of the Motor Car.



Photo 19 shows the condition of the rear right tyres of the Motor Car, which were observed to be in serviceable condition with remaining, tread depth of approximately 4.4mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres that were fitted on the Motor Car.

Engine Compartment & Operating Fluids

8. Upon examination of the Motor Car's engine compartment, 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. Further examination of the engine compartment revealed, there was no sign(s) or indication(s) of fresh 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 fluid stain. Visually, the various undercarriage components of the Motor Car were all observed to be intact and without any visible damage. See photo 20 – 24 below.



Photo 20 shows a general view of the Motor Car's engine compartment, which was accessed by lifting the front cabin of the Motor Car. The various parts and components inside the engine compartment were unaffected by the accident. There was also no sign(s) or indication(s) of fresh fluid leakage and/or fluid stain within the engine compartment



Photo 21 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.

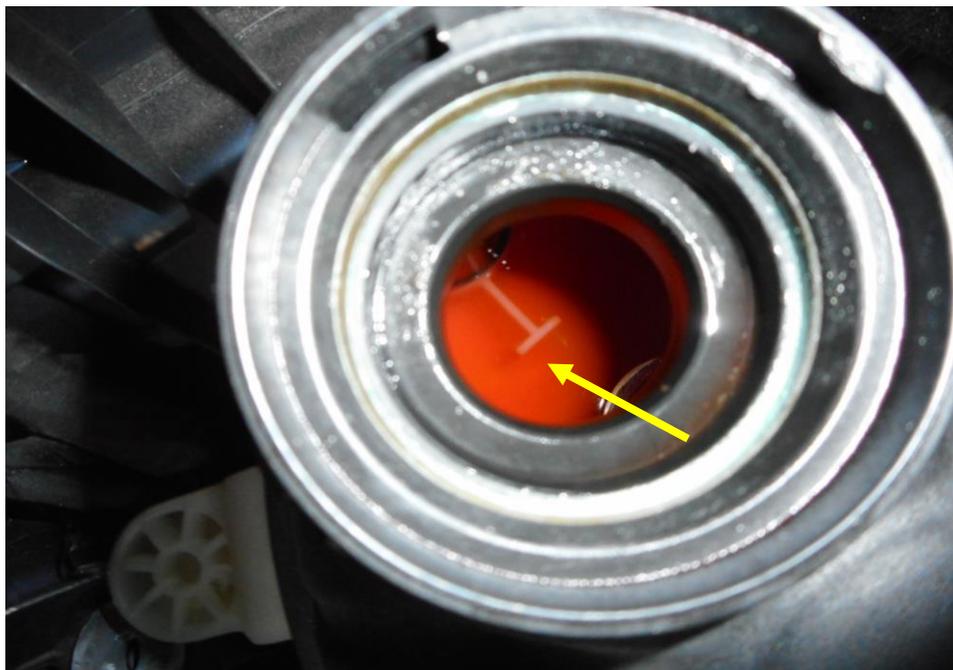


Photo 22 shows the engine coolant reservoir of the Motor Car at the time of my inspection. The engine coolant was observed to be of sufficient level (arrowed) and without any visible contamination.



Photo 23 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 24 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.

11. The Motor car's engine was not able to be started up despite multiple attempts of jumpstarting it. See photo 25 below.



Photo 25 shows the jumpstarting of the Motor Car's engine, it was not able to be started up despite multiple attempts in jump starting the engine.

Steering System & Braking System

12. For this inspection, I was not able to conduct any tests on the steering system of the Motor Car due to the Motor Car running on electric power steering which requires the Motor Car to be started up. (Engine unable to be started up)
13. Static brake tests conducted on the Motor Car revealed no abnormality. The brake booster had responded well to the various tests conducted. There was also no abnormal movement of the brake pedal when it was depressed. In general, the static brake tests had suggested that there was no internal leakage of pressure/vacuum in the braking system of the Motor Car.
14. 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 26 - 32 below.

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108



Photo 26 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod end (red 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(s) observed on the various undercarriage components.



Photo 27 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 28 shows the brake pipe (arrowed) at the rear 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. My static tests of the Motor Car's braking system, along with my visual examination of the various mechanical components in the braking system, had indicated that there was no internal leakage of pressure/vacuum. Hence the braking system of the Motor Car was likely to be in serviceable condition at the material time of accident.



Photo 29 shows the brake pipe (arrowed) at the rear left wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car. My static tests of the Motor Car's braking system, along with my visual examination of the various mechanical components in the braking system had indicated that there was no internal leakage of pressure/vacuum. Hence the braking system of the Motor Car was likely to be in serviceable condition at the material time of accident.

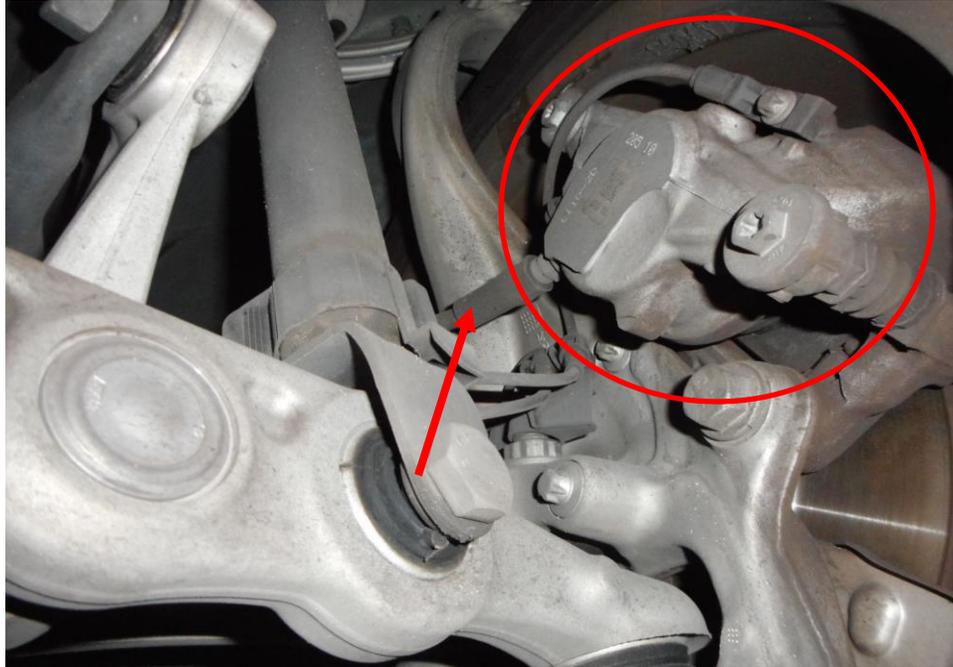


Photo 30 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage at the time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.



Photo 31 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 at the time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.

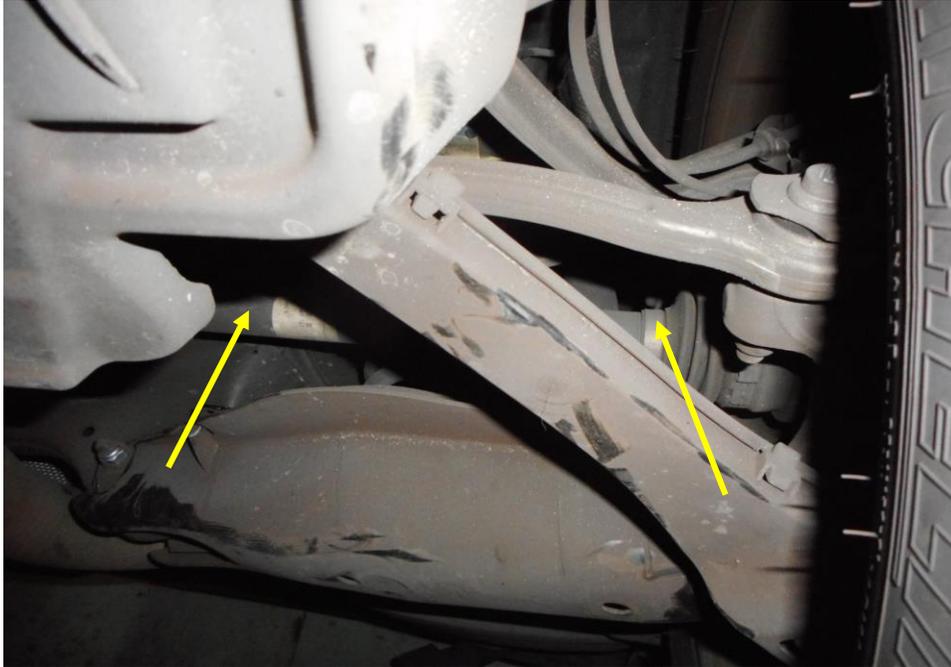


Photo 32 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the drive shaft (arrowed) were all found to be intact, suggesting that the drive shaft of the Motor Car was likely to be in serviceable condition at the material time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.

15. Static steering were not conducted on the Motor Car due to the damages that cause the engine unable to be started up. However static brake tests able to be conducted and In general our visual inspection of the mechanical components of the Motor Car's braking system appear to suggest that its braking system was in serviceable condition at the material time of accident.

Electronic Safety / Warning Indicators

16. 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 of the Motor Car was unable to be started up.

Seat Belts

17. The Front right, front left, rear right and rear left seat belts of the "Motor Car" were tested and all the seat belts 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

18. 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 despite multiple starting attempts).

Conclusion

19. 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, transmission system, steering system and suspension system.

20. However, static brake tests was able to be conducted and In general our visual inspection of the mechanical components of the Motor Car's braking system appear to suggest that its braking system was in serviceable condition at the material time of accident and there was no leakage found at the braking components of the Motor Car.

21. The 4 tyres of the Motor Car were also found to be in serviceable condition and were observed to be sufficiently inflated for vehicular operation. 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. All tyres was observed with remaining tread depth of approximately 4.2mm to 4.5mm.



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.