

You're Ref: TP/IP/01307/2023  
Our Ref: CI/TPD22010882/P

28<sup>th</sup> February 2023

**General Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF MOTOR CAR SJZ 2612R**

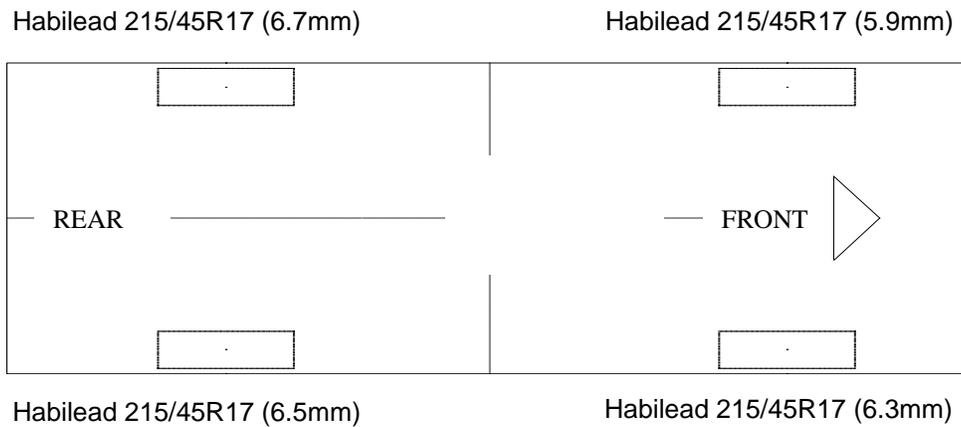
1. I refer to your request on 7<sup>th</sup> February 2023 to conduct a physical inspection of a Motor Car bearing registration number SJZ 2612R (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 15<sup>th</sup> January 2023.
2. The objective of the inspection is 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 at the time of my inspection was not recorded as the engine of the Motor Car was not started up as there were no operating fluid in the engine of the Motor Car.
5. The Motor Car was observed to have sustained damage at its front, left, right, rear and roof portion. Its front windscreen, front bumper, front right headlamp, front left and right fender, front left and right rear view mirror and rear windscreen, rear bonnet and rear right brake lamp was amongst the body parts that were damaged as a result of the accident.

### Tyres and Wheel Rims

6. The front right and rear left wheel rim was observed to be damaged as a result of the accident. However, 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 front right and rear left wheel rim was observed damaged as result of the accident. The other front left and rear left 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 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, left, right, rear and roof portion. Its front windscreen, front bumper, front right headlamp, front left and right fender, front left and right rear view mirror and rear windscreen, rear bonnet and rear right brake lamp was amongst the body parts that were damaged as a result of the accident.



**Photo 2** shows a close up 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 sustained damage. Its front windscreen (circled) was amongst the body parts that were damaged as a result of the accident.



**Photo 3** shows a close up 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 sustained damage. Its front bonnet (circled) and front right fender (arrowed) was amongst the body parts that were damaged as a result of the accident.



**Photo 4** shows a close up 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 sustained damage. Its front bumper (circled) and front right headlamp (arrowed) was amongst the body parts that were damaged as a result of the accident.



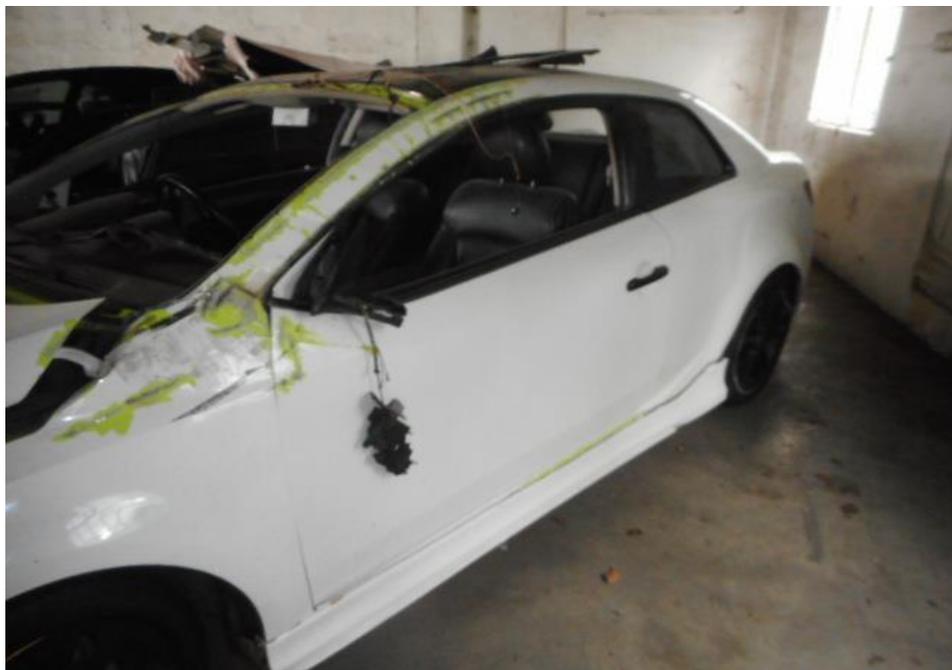
**Photo 5** shows a general up view of the Motor Car's right body at the time of my inspection. The right portion of the Motor Car was observed to have sustained damage. Its right rear view mirror and right door panel was amongst the body parts that were damaged as a result of the accident.



**Photo 6** shows a close up 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 sustained damage. Its right rear view mirror (circled) was amongst the body parts that were damaged as a result of the accident.



**Photo 7** shows a close up 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 sustained damage. Its right door panel (circled) was amongst the body parts that were damaged as a result of the accident.



**Photo 8** shows a general up view of the Motor Car's left body at the time of my inspection. The left portion of the Motor Car was observed to have sustained damage. Its left rear view mirror and left fender was amongst the body parts that were damaged as a result of the accident.



**Photo 9** shows a close up view of the Motor Car's left body at the time of my inspection. The left portion of the Motor Car was observed to have sustained damage. Its left rear view mirror (red circle) and left fender (yellow circle) was amongst the body parts that were damaged as a result of the accident.



**Photo 10** shows a general 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 have sustained damage. Its rear windscreen, rear bonnet and rear right brake lamp was amongst the body parts that were damaged as a result of the accident.



**Photo 11** 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 have sustained damage. Its rear windscreen (circled) was amongst the body parts that were damaged as a result of the accident.



**Photo 12** 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 have sustained damage. Its rear bonnet (red circle) and rear right brake lamp (yellow circle) was amongst the body parts that were damaged as a result of the accident.



**Photo 13** shows a close up view of the Motor Car's roof portion at the time of my inspection. The roof portion of the Motor Car was observed to have sustained damage. Its roof (circled) was amongst the body parts that were damaged as a result of the accident.



**Photo 14** 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 6.3mm. The wheel rim (circled) was observed to be 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 6.3mm. 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 rear right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 6.5mm. 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 6.7mm. The wheel rim (circled) was observed to be damaged as a result of the accident.



**Photo 18** 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 6.7mm. 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 front left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 5.9mm. 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 Motor Car's 4 tyres.

### **Engine Compartment & Operating Fluids**

8. Upon examination of the engine compartment of the Motor Car, I had observed that the engine oil, engine coolant and power steering fluid was observed to be insufficient. The brake fluid were found to be of sufficient level for operating purposes. Visually, there was also no contamination found to the fluid. The engine oil, engine coolant and was observed to be insufficient however we did not find any leakage to the these components
9. Further examination of the engine compartment revealed that the power steering fluid reservoir and a hose belonging to the power steering fluid reservoir was observed to be broken off and had resulted the power steering fluid to leak out and become insufficient. From our understanding, the damages to the power steering reservoir was due to induced impact from the accident that have cause the hoses to be broken off and the reservoir to crack at the bottom

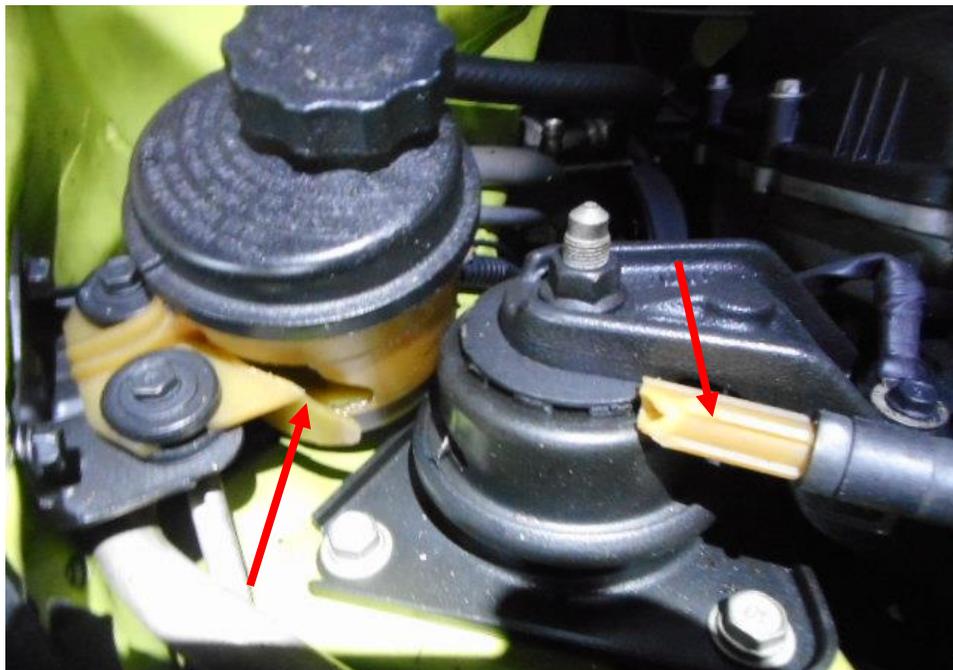
10. My subsequent checks on the underside of the Motor Car also revealed no sign(s) or indication(s) of fluid leak and/or fluid stain(s). See photo 20 – 25 below.



**Photo 20** shows a general view of the Motor Car's engine compartment. The power steering fluid reservoir and hose 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 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 there was also no contamination found to the fluid.



**Photo 22** shows the power steering fluid level of the Motor Car at the time of my inspection. The power steering fluid was observed to be of insufficient level as its hose and reservoir was broken due to the induced impact as a result of the accident.



**Photo 23** 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 insufficient level (arrowed).



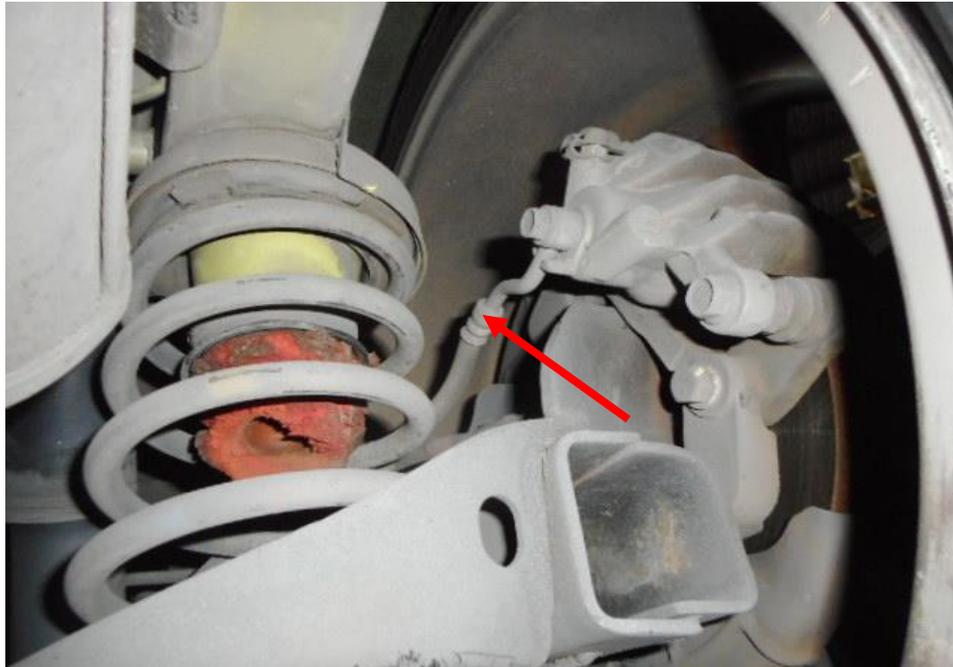
**Photo 24** shows the engine oil level dipstick of the Motor Car at the time of my inspection. The engine oil was observed to be of insufficient level.



**Photo 25** 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. Static brake and steering system tests on the Motor Car was not conducted as it requires the engine to be started up however, the engine of the Motor Car was not started up as there was no operating fluids in the engine.
12. My visual examination of the various steering components which had included the steering rack and pinion, tie rods, tie rod ends and ball joints revealed that these components were all generally intact. The front right and left driveshaft was observed to have grease leaking out. See photo 26 - 31 below.



**Photo 26** shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. The undercarriage components of the Motor Car were also all found to be intact and without any visible damage.



**Photo 27** shows the brake hose/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. The undercarriage components of the Motor Car were also all found to be intact and without any visible damage.



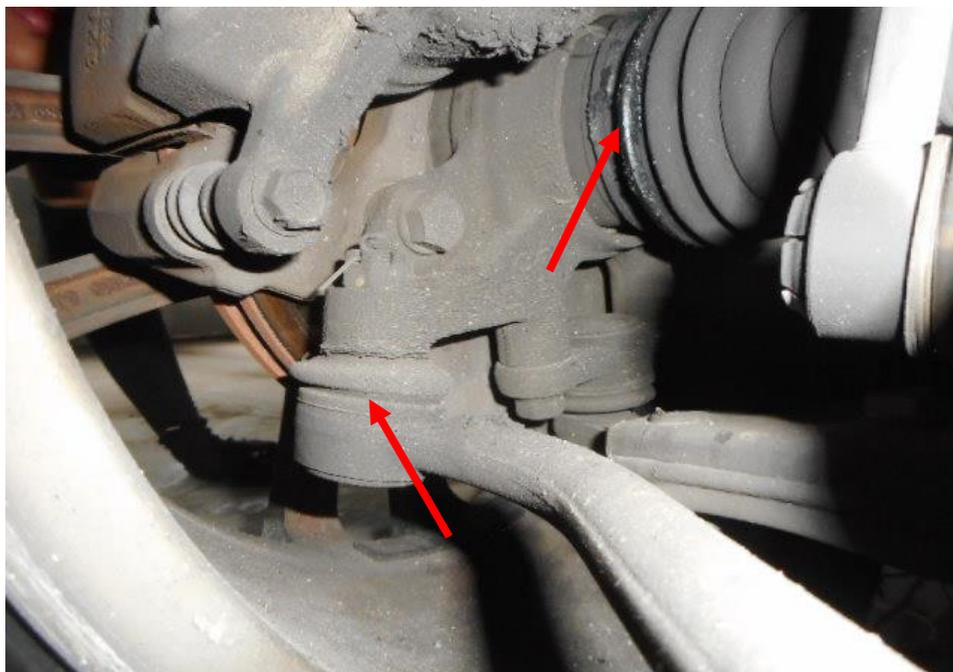
**Photo 28** shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid however, I observed old fluid stains on it at the time of my inspection of the Motor Car. The undercarriage components of the Motor Car were also all found to be intact and without any visible damage.



**Photo 29** shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed however, I observed old fluid stains on it at the time of my inspection of the Motor Car. 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 30** shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (arrowed) the drive shaft (arrowed) was observed to be intact however, there was grease coming out from it. The various steering components were all found to be intact. There was also no sign of fluid stain observed on the various undercarriage components at the front right wheel of the Motor Car.



**Photo 31** shows the various undercarriage components at the front left wheel of the Motor Car, which had included the steering tie rod (arrowed). The various undercarriage components of the Motor Car were all found to be intact without any visible damage. There was grease come out from the driveshaft. However, the various steering components were all found to be intact.

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

13. Motor Car's automatic self-test of the functionality of its electronic operating systems was unable to be conducted as it requires the engine to be started up however, the engine of the Motor Car was unable to be started up as there was no operating fluids in the engine.

### **Seat Belts**

14. The Front right, front 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. We were unable to tell if the seat belt was worn at the material time as the respective pre-tensioners that were fitted at the sides of each seat did not activate at the material time of accident. In our opinion the damages on the Motor Car sustain from the accident was not of an high impact as the chassis of the Motor Car was still intact and there was no signs of them breaking apart. We are in view that for this particular accident the driver should not be ejected from the seat if the seat belt was buckled at the material time of accident.

### **Operational Behaviour of the Motor Car**

15. A short operational test of the Motor Car, was unable to be conducted as it requires the engine to be started up however, there was no operating fluids in the engine.

### **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. As there was no operating fluids in the engine and it had sustained had prevented me from starting the Motor Car and 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 front right and rear left wheel rim of the Motor Car was damaged as a result of the accident. However all 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 4 tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 5.9mm to 6.7mm.



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