

Your Ref: TP IP/34185/2022  
Our Ref : CI/TPD23005775/P

18<sup>th</sup> July 2023

**General Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF MOTOR CAR SJF 856Y**

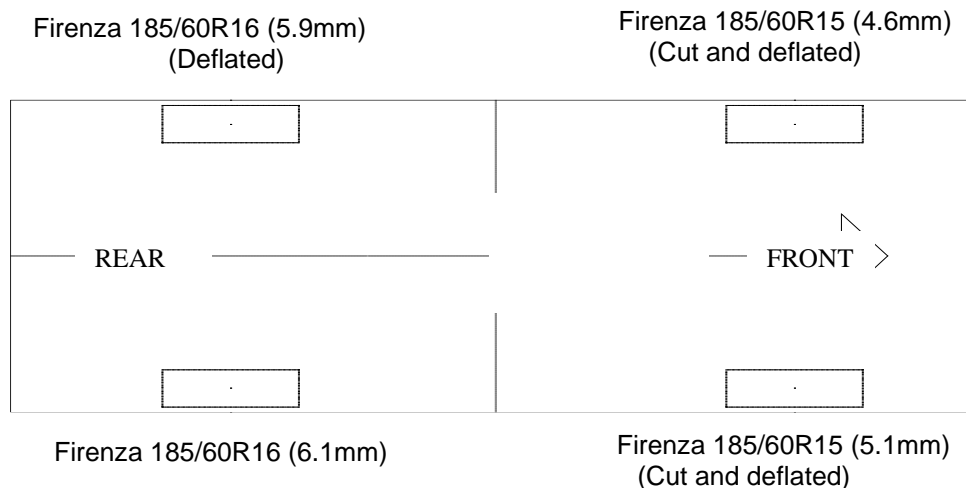
1. I refer to your request on 28<sup>th</sup> April 2023 to conduct a physical inspection of a Motor car bearing registration number SJF 856Y (herein referred to as “**Motor Car**”), which was involved in a road traffic accident on 16<sup>th</sup> December 2022.
2. The objective of the inspection is 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 15<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 at the time of my inspection was not recorded as the engine of the Motor Car was unable to be jumpstarted up despite multiple attempts in jumpstarting it.
5. The Motor car was observed to have sustained damage at its front portion and right portion. Its front bonnet, front bumper, grille and rear right door was the body parts that were damaged as a result of the accident.

## Tyres and Wheel Rims

6. The Motor Car's front right and left tyre was observed to be cut and deflated and their wheel rims also damaged as well as the rear left tyre was observed to be deflated as a result of the accident. However, the rear right tyre and wheel rim 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 tyre. The rear right tyre 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 and left tyre was observed to be cut and deflated and their wheel rims damaged and the rear left tyre was also observed to be deflated as a result of the accident, however the rear right wheel rim and tyre was observed to be wrapped around the alloy wheel rim that were found to be without any damages. See photo 1 – 12 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 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 front portion. Its front bonnet, front bumper as well as its front grille were amongst the body parts that were 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 (red circle), its front grille and bumper (yellow circle) was damaged as a result of the accident.



**Photo 4** shows a general view of the Motor Car's right portion at the time of my inspection. The right rear door (circled) of the Motor Car was observed to have been damaged as a result of the accident.



**Photo 5** shows the close up view of the Motor Car's right portion at the time of my inspection. The right rear door (circled) of the Motor Car was observed to have been damaged as a result of the accident.



**Photo 6** shows a general 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 been undamaged by the accident.





**Photo 7** shows the general condition of the front right tyre and wheel rim of the Motor Car, which was observed to be cut and deflated and the wheel rim was damaged as a result of the accident with remaining tread depth of approximately 5.1mm.



**Photo 8** shows the close up condition of the front right tyre and wheel rim of the Motor Car, which was observed to be cut and deflated (circled) and the wheel rim (arrowed) was damaged as a result of the accident with remaining tread depth of approximately 5.1mm



**Photo 9** 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 6.1mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



**Photo 10** shows the general condition of the rear left tyre and wheel rim of the Motor Car, which was observed to be deflated as a result of the accident with remaining tread depth of approximately 5.9mm.





**Photo 11** shows the general condition of the front left tyre and wheel rim of the Motor Car, which was observed to be cut and deflated and the wheel rim was damaged as a result of the accident with remaining tread depth of approximately 4.6mm.



**Photo 12** shows the close up condition of the front left tyre and wheel rim of the Motor Car, which was observed to be cut and deflated (circled) and the wheel rim (arrowed) was damaged as a result of the accident with remaining tread depth of approximately 4.6mm



### Engine Compartment & Operating Fluids

8. Upon examination of the Motor Car's engine compartment, I had observed only coolant in the radiator to be insufficient due to the damage to the front as a result of the accident. However, all the other parts and components inside the engine compartments was observed to be intact and unaffected by the accident. The engine oil and brake fluid were all found to be of sufficient level for operating purposes. Visually, there was no contamination found to these fluids.
9. Further 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 -18 below.



**Photo 13** shows a general view of the Motor Car's engine compartment, which was accessed by lifting the front bonnet 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 14** shows the close up view of the engine compartment of the Motor Car at the time of my inspection. The engine radiator (circled) was observed to be damaged and as a result of the accident.



**Photo 15** shows the engine coolant radiator cap of the Motor Car at the time of my inspection. The coolant was observed to be of insufficient level (arrowed) as a result of the accident.



**Photo 16** shows the brake fluid reservoir of the Motor Car at the time of my inspection. The coolant was observed to be of sufficient level (arrowed) without any visible contamination.



**Photo 17** shows the engine oil level dipstick 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.

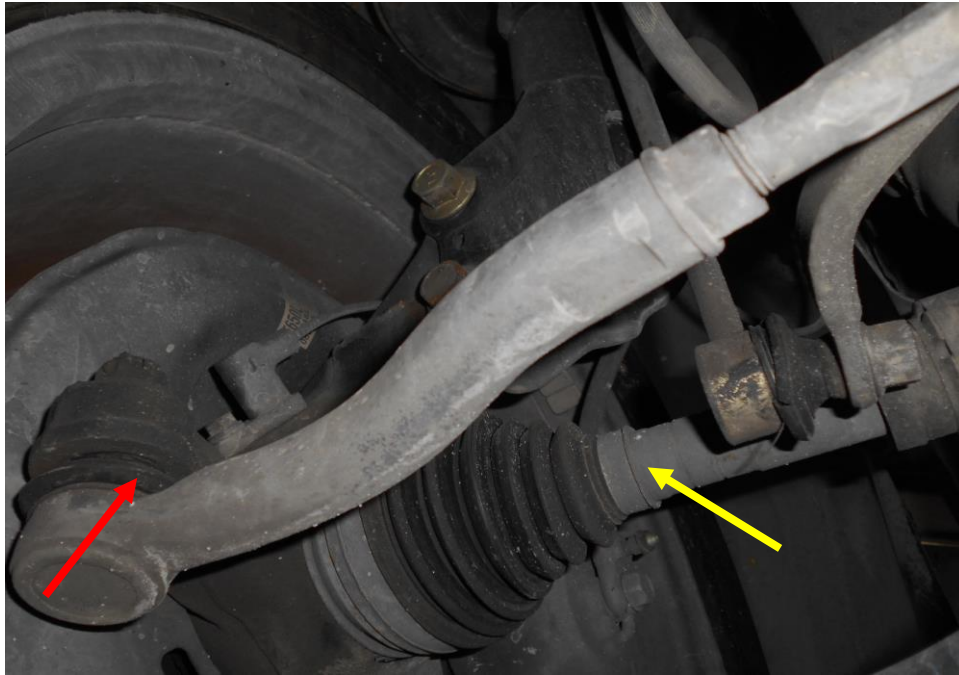




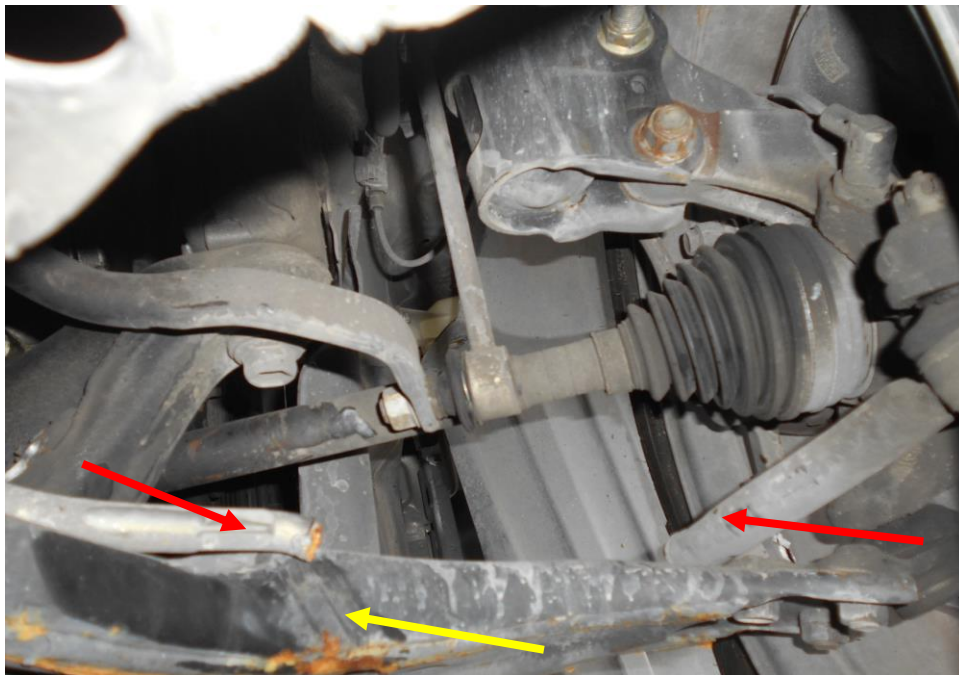
**Photo 18** shows the undercarriage of the Motor Car, at the area where the engine housing and transmission housing are located. I did not find any sign(s) or indication(s) of fluid leak and/or fluid stain(s) on the underside of the Motor Car.

### **Braking System & Steering System**

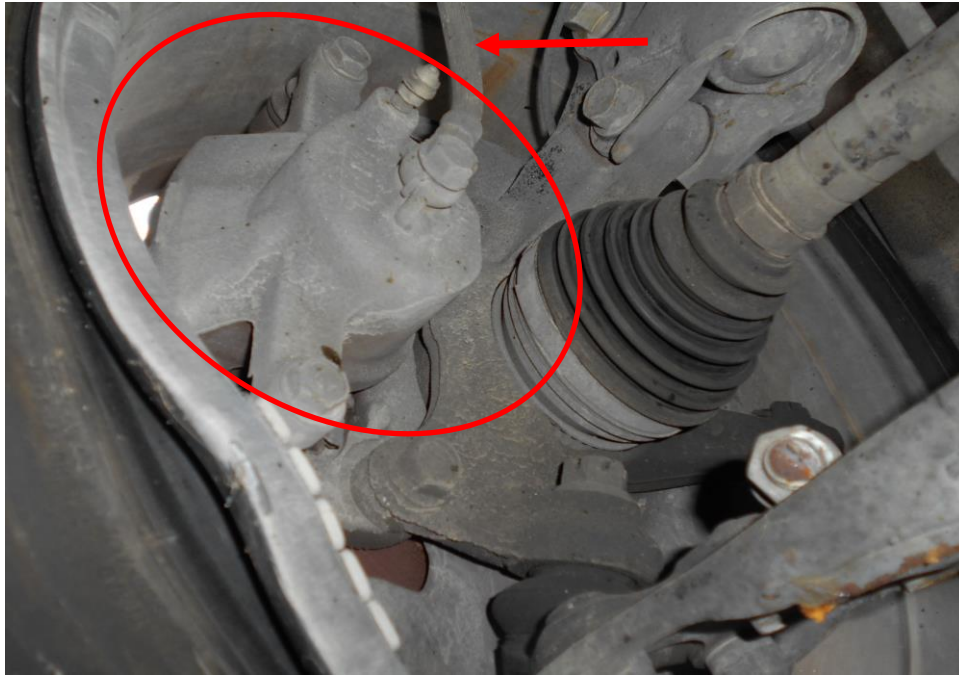
11. For this inspection, I was not able to conduct any static brake and steering tests on the steering and braking system of the Motor Car due to the Motor Car running on electric power steering (EPS) and braking system which requires the Motor Car to be started. However, the engine was unable to be started up despite multiple times in jumpstarting the engine of the Motor Car.
12. My visual examinations of the various steering components had revealed that the front right steering tie rod and the front right lower control arm of the front right wheel was damaged was a result of the accident. However, the steering components of the front left wheel were all generally intact. See photo 19 - 25 below.



**Photo 19** shows the various undercarriage components at the left rear wheel of the Motor Car, in particular the steering tie rod (red arrow) and driveshaft (yellow arrow) and 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 20** shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (red arrow) and front lower control arm (yellow arrow) was found to be damaged as a result of the accident.



**Photo 21.** 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.

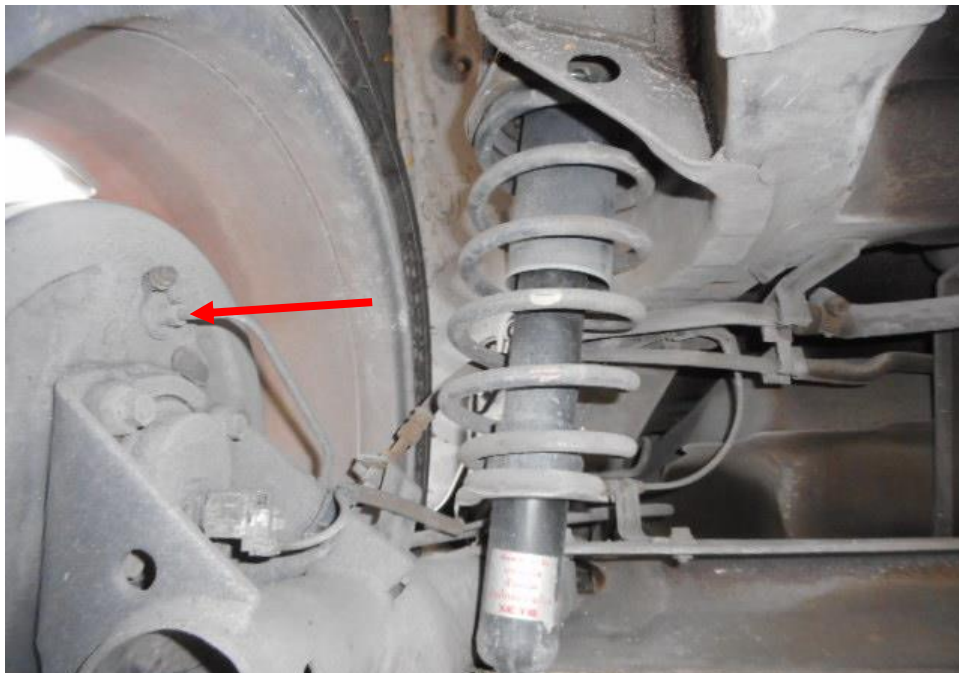


**Photo 22** shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage.





**Photo 23** 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 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 drum brake, brake booster, brake pedal etc. had revealed all to be intact and without visible damage.



**Photo 25** 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.

### **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 the engine of the Motor Car was unable to be started up due to the vehicle unable to be jump started despite multiple attempts and the damages sustained to the front right tie rod and lower control arm 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 Motor Car's right left front tyre was observed to be cut and deflated and both front right and left rim was damaged as well as its rear left tyre was observed to be deflated as a result of the accident. Only the rear right 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 inner sidewalls, only the rear right tyre were also observed to be sufficiently inflated for vehicular operation with the remaining tread depth of approximately 4.6mm – 6.1mm.



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*Technical Investigator*



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