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Your Ref: TP/IP/62509/2018
Our Ref: CI/TPD19000758/P

24th April 2019

Fatal Accident Investigation Team
Traffic Police Department
Singapore Police Force
10 Ubi Avenue 3
Singapore 408865

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLJ 1342L

1. I refer to your request on 28 December 2018 to conduct a physical inspection of a motor car bearing registration number SLJ 1342L (herein referred to as "**Motor Car**"), which was involved in a fatal road traffic accident on 09 November 2018.

2. The purpose of this inspection is to primarily determine if there was any possible mechanical failure to the Motor Car that may have contributed to the accident, in particular whether there was any issue with the braking system and various components of the Motor Car.

3. Following the request, I had carried out a physical inspection of the Motor Car on 5th March 2019 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 111,924KM

5. The Motor Car had sustained impact damage on the front right. Body parts at the right front fender portion, front bumper portion were observed to have been damaged. The front windscreen observed to have cracks as a result of the accident. See photo 1- 4.

Photo 1 shows a general view of the front of the Motor Car at the time of my inspection. The front right fender & the windscreen are amongst the body parts that were damaged as a result of the accident.

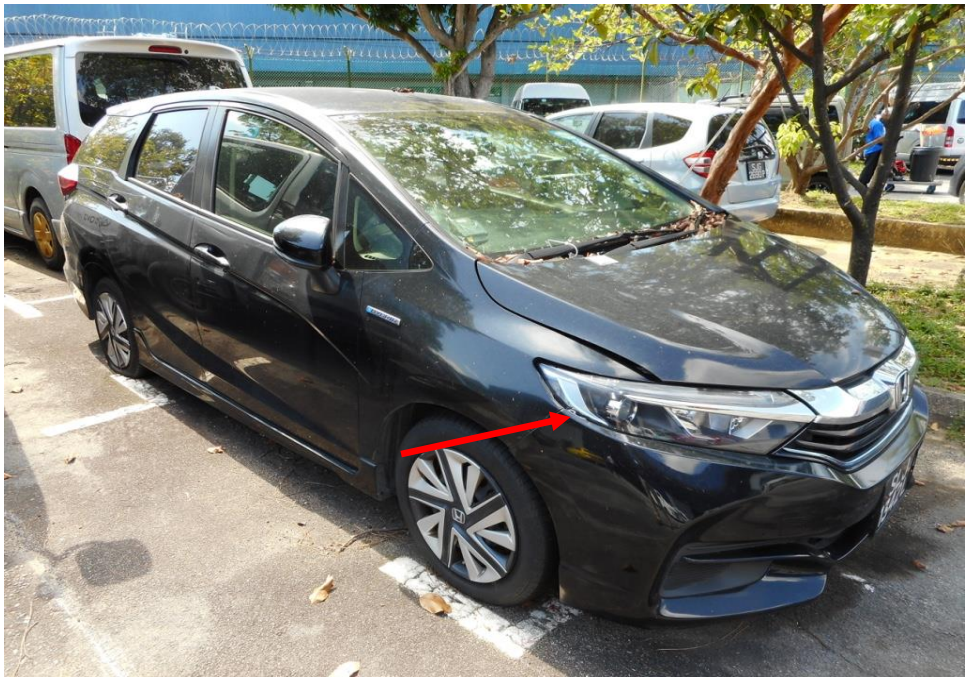


Photo 2 shows a general view of the front right portion of the Motor Car at the time of my inspection. The front right fender are amongst the body parts that were damaged as a result of the accident.

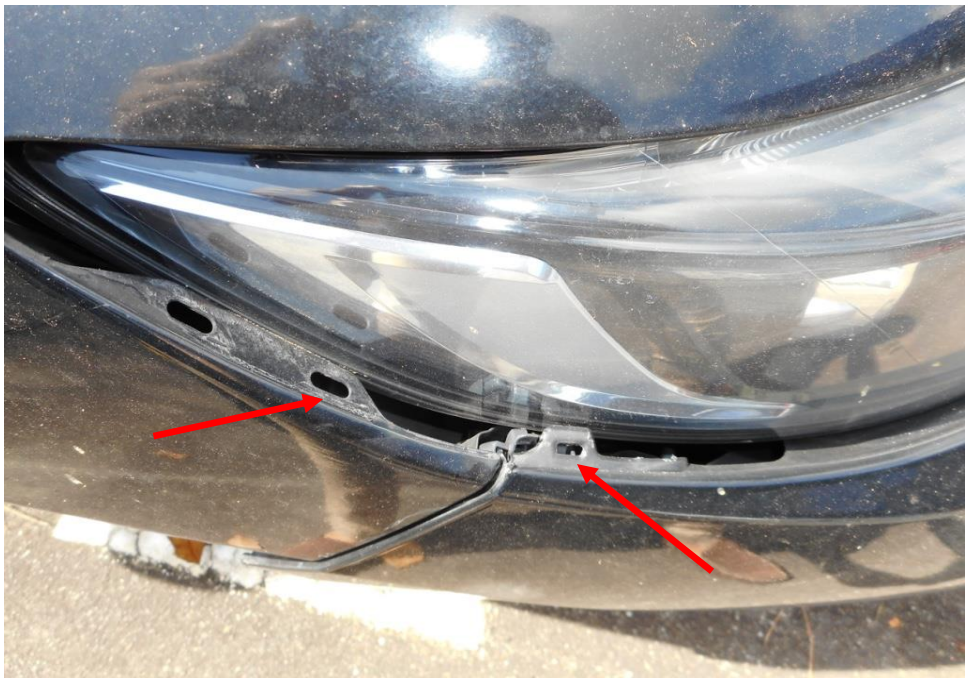


Photo 3 shows a close up view of the front right portion of the Motor Car at the time of my inspection. The front right fender & bumper were amongst the body parts that were damaged as a result of the accident.

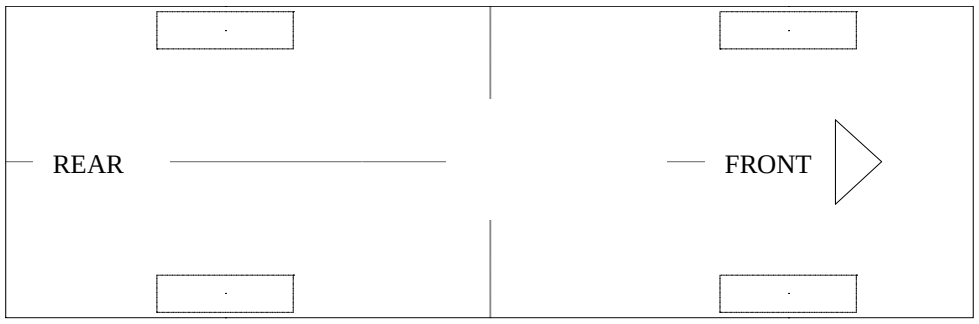
Photo 4 shows a close up interior view of the front right portion of the Motor Car at the time of my inspection. The front windscreen and fender were amongst the body parts that were damaged as a result of the accident.

Tyres and Wheel Rims

6. The 3 out of 4 tyres of the Motor Car were found to be sufficiently inflated for vehicular operations. These 3 tyres were observed to be in serviceable condition with remaining tread depth of approximately 4.5- 4.8mm. There was also no cut, tear or burst mark(s) observed on these tyres.

7. The right rear tyre, on the other hand, were observed to be deflated. No cut or damage was observed. The remaining tread depth of the tyre were approximately 4.6mm.

8. The condition of the Motor Car's 4 tyres was observed to be in serviceable condition. The 4 tyres were also 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:-



9. The rear & front tyres was wrapped around alloy wheel rims that were found to be without any significant damage. Only the rear right tyre was found to be deflated. See photo 6 - 8 below.

Photo 6 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 4.8mm. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

Photo 7 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 4.1mm. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

Photo 8 shows a general view of the rear right wheel rim and tyre of the Motor Car. The front right tyre was observed to be deflated. Which was observed to be in serviceable condition with remaining tread depth of approximately 4.6mm. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre.

Photo 9 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 4.5mm. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of this tyre. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

Engine Compartment & Operating Fluids

10. Upon examination of the engine compartment of the Motor Car, 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.

11. 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.

11. 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 10 – 14 below.

Photo 10 shows a general view of the Motor Car's engine compartment. The various parts and components 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 11 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 (as indicated by the red arrows) and without any visible contamination.

Photo 12 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 sufficient level and without any visible contamination.

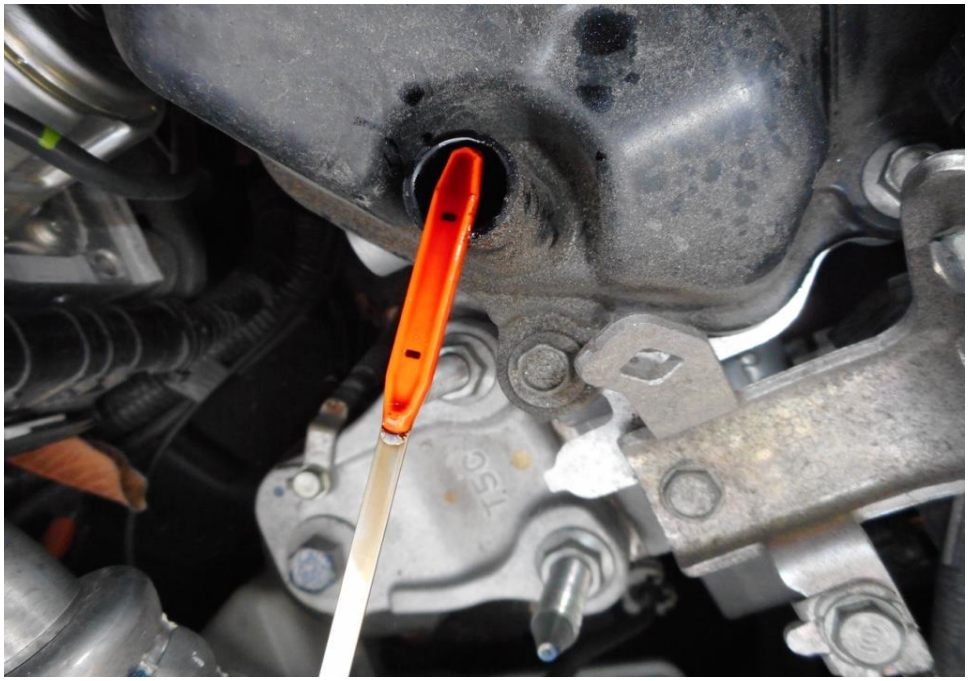


Photo 13 shows the engine oil dip stick of the Motor Car at the time of my inspection. The engine oil was observed to be of sufficient level and without any visible contamination.

Photo 14 shows the front underside of the Motor Car. I did not find any sign(s) or indication(s) of fluid leak and/or fluid stain(s) on the underside.

Steering System & Braking System

12. 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. The braking system of the Motor Car was likely to be in serviceable condition at the material time. This was taking into consideration that the brake fluid was of sufficient level, and also that there was no sign(s) of brake fluid leakage along the brake hoses and brake pipes.

13. Static test on the steering system of the Motor Car also revealed no abnormality to the steering system. I did not experience any abnormal free play and/or other resistance when turning the steering wheel left and right to full lock positions. 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 in good condition. See photo 15 - 18 below.

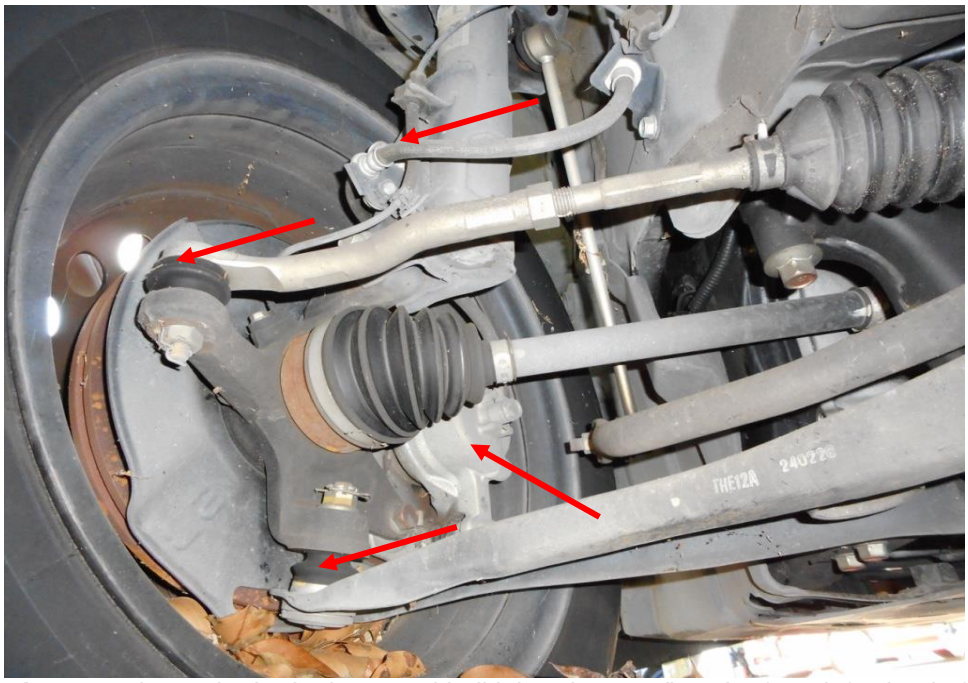


Photo 15 shows the brake hose and ball joints (arrowed) at the front left wheel of the Motor Car. I did not observe any leakage of brake fluid. My visual inspection of the mechanical components of the braking system, including its brake callipers, revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.

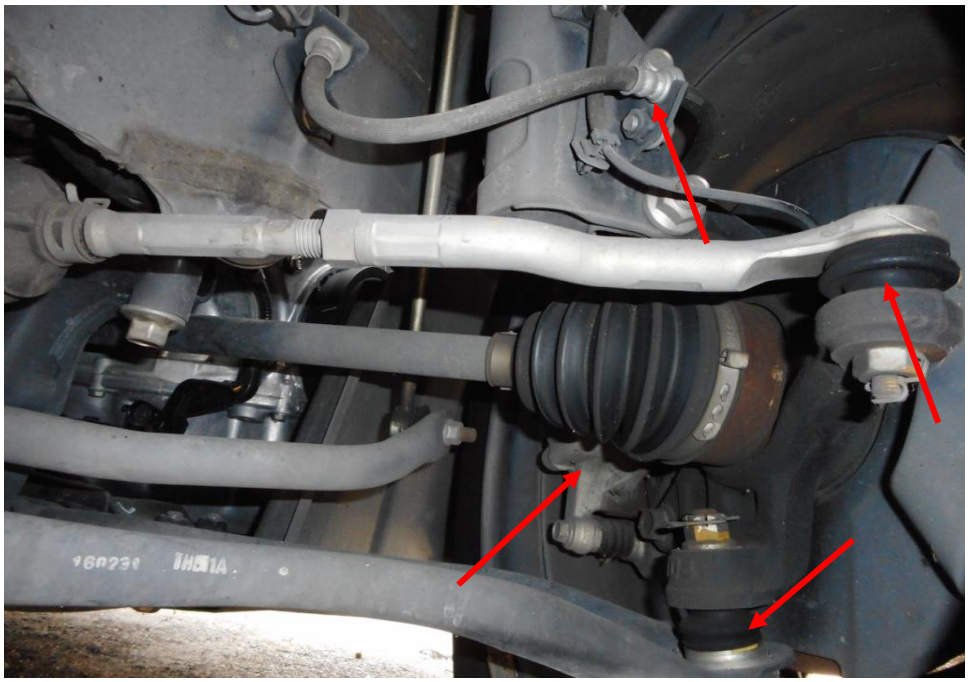


Photo 16 shows the brake hose and ball joints (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid. My visual inspection of the mechanical components of the braking system, including its brake callipers, revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.

Photo 17 shows the various undercarriage components at the rear left wheel of the Motor Car, the brake hoses (arrowed). I did not observe any leakage of brake fluid & my visual inspection of the various mechanical components of the braking system revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.

Photo 18 shows the various undercarriage components at the rear right wheel of the Motor Car, the brake hoses (arrowed). I did not observe any leakage of brake fluid & my visual inspection of the various mechanical components of the braking system revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.

Electronic Safety / Warning Indicators

14. The Motor Car's automatic self-test of the functionality of its various electronic operating systems like the Anti-Lock Brake System (ABS), Electric Power Steering System (EPS), Traction Control (TC) and Supplemental Restraint System (SRS) during cranking of the engine had indicated that these systems were in working condition and without abnormality. This can be established from the warning lights disappearing from the instrument panel after the self-test. See photo 19 & 20 below.

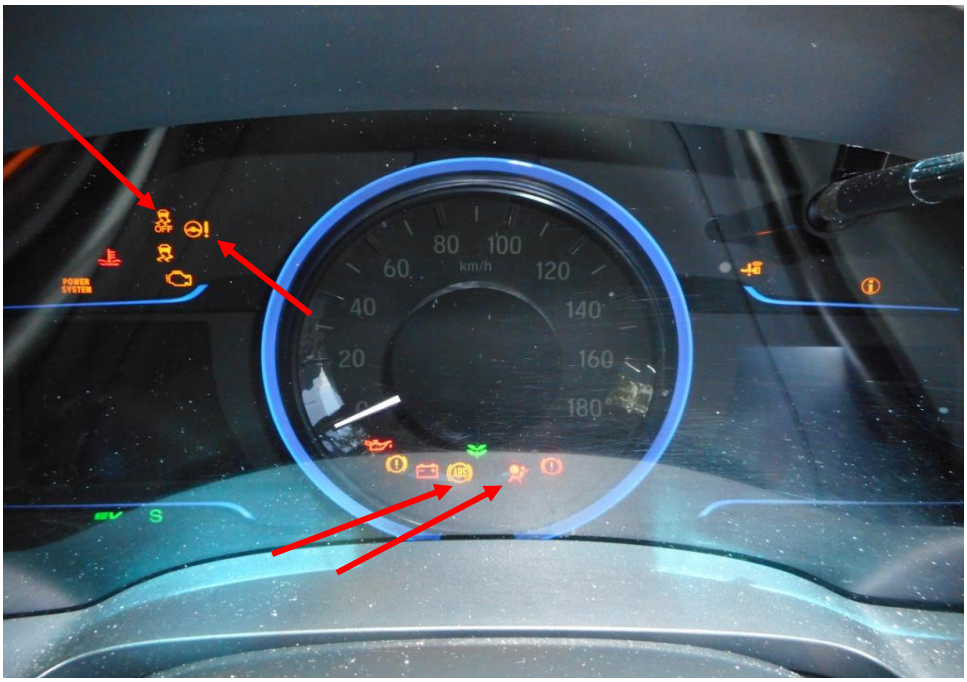


Photo 19 shows the warning light for Anti-Lock Brake System (ABS), Electric Power Steering System (EPS), Traction Control (TC) and Supplemental Restraint System (SRS) appearing on the instrument panel of the Motor Car during the self-test of its various electronic operating systems when its engine was cranked.

Photo 20 shows no warning lights illuminated on the instrument panel of the Motor Car after the engine was cranked. This would suggest that there was no abnormality to the various electronic operating systems of the Motor Car, like the ABS, EPS, TC and SRS etc.

Operational Behaviour of the Motor Car

15. During the operational test, the transmission system of the Motor Car was able to be shifted to drive mode and reverse mode without any difficulty. There was no abnormal sounds heard and/or abnormal behaviour of the Motor Car's engine system. It was able to move forward and backward normally. The braking system was also found to be in working condition as the Motor Car was able to slow down and come to a complete stop upon depressing of the brake pedal.

Conclusion

16. From my physical inspection of the Motor Car, it appears that its engine system, transmission system and braking system were all in serviceable condition. I did not find any evidence(s) to suggest that there was possible mechanical failure and/or abnormal behaviour to the Motor Car that may have caused and/or contributed to the accident.

17. My Static test of the Motor Car, it appears that its engine system, transmission system, braking system & steering system were all in serviceable condition. I did not find any evidence(s) to suggest that there was possible mechanical failure and/or abnormal behaviour to the Motor Car that may have caused and/or contributed to the accident.

18. The 4 tyres of the Motor Car were found to be in serviceable condition with remaining tread depth of approximately 4.1mm to 4.8mm.

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