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Your Ref: TP/IP/36381/2019 8th July 2019
Our Ref : CI/TPD19011283/P

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SJZ 1789X

1. I refer to your request on 20th June 2019 to conduct a physical inspection of a motor car bearing registration number SJZ 1789X (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 9th June 2019.

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.

3. Following the request, I had carried out a physical inspection of the Motor Car on 4rd July 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 not recorded as its battery and ignition system was affected by the collision.

5. The Motor Car had sustained extensive impact damage. Body parts at its front portion, left and right portion were observed to have been damaged as a result of the accident.

6. Parts towards the front of the engine compartment were damaged. This had included its front bonnet, both front bonnet hinges, bonnet lock mechanism, front bumper, front number plate, front reinforcement, left and right fenders, left side body panel, rear boot, rear bumper and rear body panel, engine system, radiator, front left and right headlamp and rear left brake lamp. See photo 1 – 11 below.

Photo 1 shows a general view of the rear portion of the Motor Car at the time of my inspection. The rear portion of the Motor Car was observed to have been damaged by the accident.

Photo 2 shows a close up view of the rear portion of the Motor Car at the time of my inspection. The rear portion of the Motor Car was observed to have been damaged by the accident. Its bonnet, left brake lamp, left body panel and bumper as a result of the accident.

Photo 3 shows a general view of the front portion of the Motor Car at the time of my inspection. The Motor Car was also observed to have sustained extensive impact damage at its frontal portion, damaged parts had included its front bonnet, both front bonnet hinges, bonnet lock mechanism, front bumper, front number plate, front reinforcement, left and right fenders, left side body panel, engine system, radiator, front left and right headlamp were amongst the body parts that were observed to have been damaged as a result of the accident.

Photo 4 shows a close up view of the front portion of the Motor Car at the time of my inspection. The bonnet, reinforcement, right fender and right head lamp (arrowed) of the Motor Car was observed to have been damaged as a result of the accident

Photo 5 shows a close up view of the front portion of the Motor Car at the time of my inspection. The bonnet, front bumper, front number plate right fender and right head lamp (arrowed) of the Motor Car was observed to have been damaged as a result of the accident

Photo 6 shows a close up view of the front portion of the Motor Car at the time of my inspection. The battery and ignition system (arrowed) of the Motor Car was observed to have been damaged as a result of the accident

Photo 7 shows a close up view of the front portion of the Motor Car at the time of my inspection. The radiator of the Motor Car was observed to have been damaged by an induced impact (arrowed) as a result of the accident

Photo 8 shows a close up view of the right bonnet hinge of the Motor Car at the time of my inspection. The right bonnet hinge of the Motor Car was observed to have been damaged as a result of the accident. (arrowed)

Photo 9 shows a close up view of the left bonnet hinge of the Motor Car at the time of my inspection. The left bonnet hinge of the Motor Car was observed to have been damaged as a result of the accident. (arrowed)

Photo 10 shows a general view of the front left portion of the Motor Car at the time of my inspection. The left door panels (arrowed) of the Motor Car were observed to have been damaged as a result of the accident.

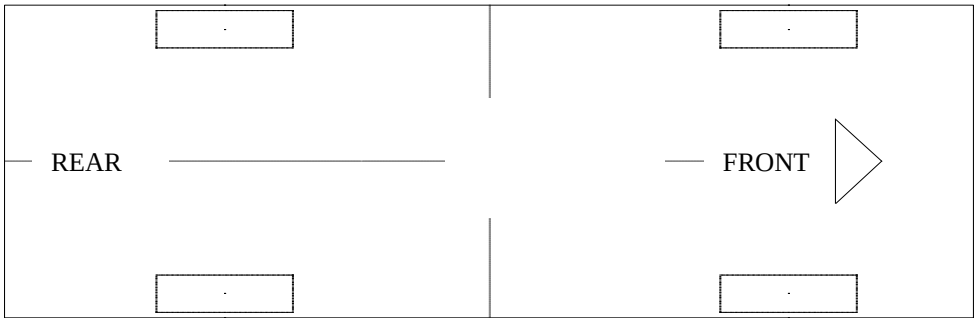
Photo 11 shows a general view of the left portion of the Motor Car at the time of my inspection. The front right doors of the Motor Car was observed to have been undamaged by the accident.

Tyres and Wheel Rims

7. 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:-

8. The 4 tyres were observed to be in good 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 and were observed to be wrapped around standard alloy wheel rims that were found to be without any damage. See photo 12 – 15 below.

Michelin 195/65R15 (3.3mm) Michelin 195/65R15 (3mm)



Michelin 195/65R15 (3.3mm) Michelin 195/65R15 (3mm)

Photo 12 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 3mm. The tyre was sufficiently inflated for vehicular operation with no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread. The 4 tyres of the Motor Car were wrapped around standard alloy wheel rims without any damage.

Photo 13 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 3.3mm. 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 14 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 3.3mm. 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 15 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 3mm. 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, however observed to be deflated due to damage to the rims.

Engine Compartment & Operating Fluids

9. The impact from the collision had affected the engine compartment of the Motor Car. Parts towards the front of the engine compartment were observed to be damaged. The locking mechanism and the hinges of the Motor Car's front bonnet were also affected and I was unable to unlock and lift the front bonnet to carry out examination of the Motor Car's engine compartment. The various operating fluids like its engine coolant, brake fluid and transmission fluid etc were hence unable to be inspected. See photo 16 below.

Photo 16 shows the damage to the locking mechanism (arrowed) Motor Car's front bonnet, rendering it unable to be unlocked and lifted up to carry out examination of the Motor Car's engine compartment as a result of the accident.

Steering System & Braking System

10. For this inspection, I was not able to conduct any tests on the steering system of the Motor Car due to damage to ignition system and the damage to the engine system.

11. My subsequent checks on the underside 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.

12. With regard to the braking system, although I was also not able to carry out any tests given that the Motor Car's engine could not be started due to damage to its ignition and steering system as a result of the accident, my visual inspection of the various mechanical components of the braking system to the parts like the, brake calipers and brake hoses at the 4 wheels are amongst others were all observed to be intact and undamaged. There was also no sign(s) or indication(s) of brake fluid leak observed at the 4 wheels of the Motor Car. See photo 16 - 21 below.

Photo 16 shows the various undercarriage components at the front right wheel of the Motor Car, which had included the steering tie rod (red arrow) and front left drive shaft (yellow arrow). The various undercarriage components of the Motor Car were all found to be intact without any visible damage.

Photo 17 shows the undercarriage components at the front left wheel of the Motor Car. My checks on the underside of the Motor Car revealed damage to the various undercarriage components, the steering rack and pinion, tie rods, tie rod ends and ball joints (arrowed) revealed that these components were all generally in good condition.

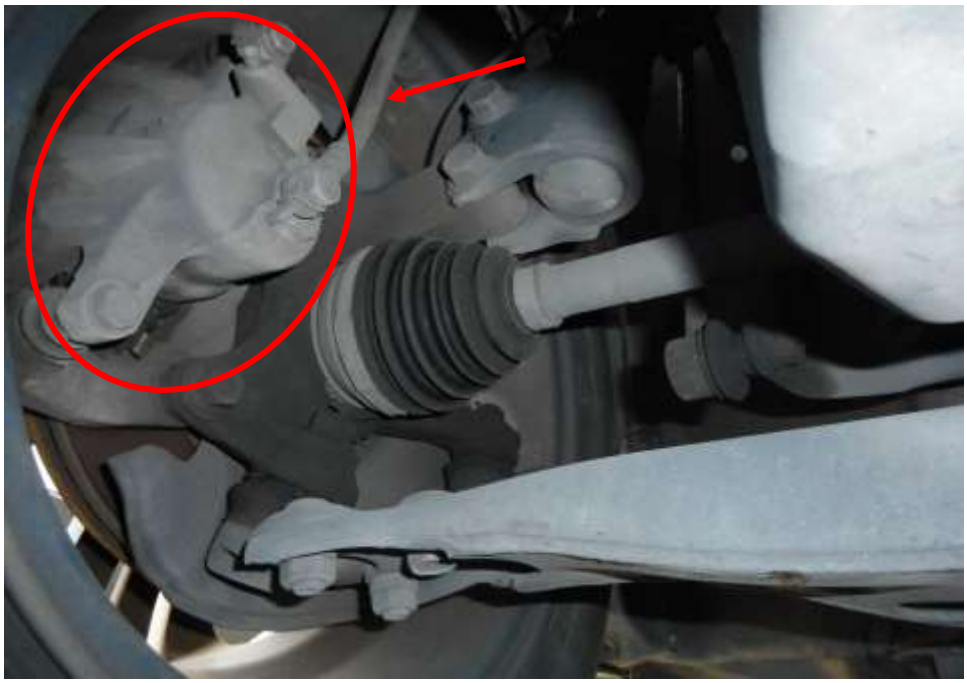


Photo 18 shows the brake hose (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid at the 4 wheels of the Motor Car. My visual inspection of the various mechanical components of the Motor Car's braking system, including its brake caliper (circled), revealed all to be intact and without visible damage.

Photo 19 shows the brake hose (arrowed) at the front left wheel of the Motor Car. I did not observe any leakage of brake fluid at the 4 wheels of the Motor Car. My visual inspection of the various mechanical components of the Motor Car's braking system, including its brake caliper (circled), revealed all to be intact and without visible damage.

Photo 20 shows the various undercarriage components at the rear right wheel of the Motor Car, in particular the brake hose (arrowed). I did not observe any leakage of brake fluid at the 4 wheels of the Motor Car. My visual inspection of the various mechanical components of the Motor Car's braking system revealed all to be intact and without visible damage.

Photo 21 shows the various undercarriage components at the rear left wheel of the Motor Car, in particular the brake hose (arrowed). I did not observe any leakage of brake fluid at the 4 wheels of the Motor Car. My visual inspection of the various mechanical components of the Motor Car's braking system revealed all to be intact and without visible damage.

Electronic Safety / Warning Indicators

13. The Motor Car's automatic self-test of the functionality of its various operating systems like the Anti-Brake Lock System (ABS) and Supplemental Restraint System (SRS) during cranking of the engine was not able to be initiated as the engine of the Motor Car could not be started due to damage to its battery and ignition system arising from the accident.

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 extent of damage that it had sustained (engine could not be started and undercarriage components affected).

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, transmission system, steering system, braking system and suspension system.

16. 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 3mm to 3.3mm.

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