

Your Ref: G/IP/00336/2022
Our Ref : CI/TPD22001223/P

23rd February 2022

General Investigation Squad 4

Bedok Police Division HQ
30 Bedok North Rd
Singapore 469676

Fatal Incident Investigation Team

Traffic Police Department
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10 Ubi Avenue 3
Singapore 408865

MECHANICAL INSPECTION REPORT OF MOTOR CAR SND 3291U

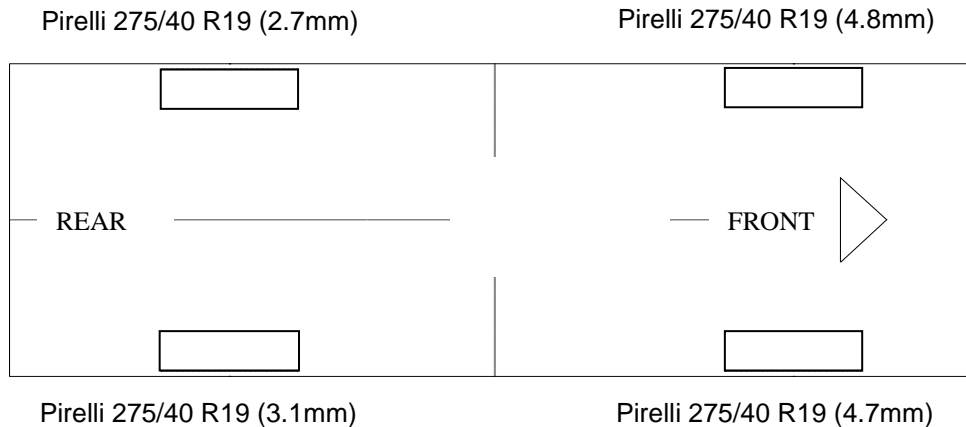
1. I refer to your request on 28th January 2022 to conduct a physical inspection of a Motor Car bearing registration number SND 3291U (herein referred to as "**Motor Car**"), which was involved in a road incident on 11th January 2022.
2. Additional details was provided by the investigating officer in that, the Motor Car was fixed with number plate SMP 19J at the time of offence. The actual number plate of the vehicle involved at the time of incident should be SND 3291U.
3. Following the request, I had carried out a physical inspection of the Motor Car on 7th February 2022 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 50,924km.
5. The objective of this inspection is to determine if there was any possible mechanical failure to the Motor Car SND 3291U that may have contributed to the incident.
6. There was no visible damage observed on Motor Car at the time of my inspection.

Tyres and Wheel Rims

7. The 4 tyres of the Motor Car were observed to be in serviceable condition and 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 of the Motor Car were recorded as follows:-



8. The 4 tyres were observed to be wrapped around standard alloy wheel rims that were found to be without any damage. See photo 1 – 11 below.

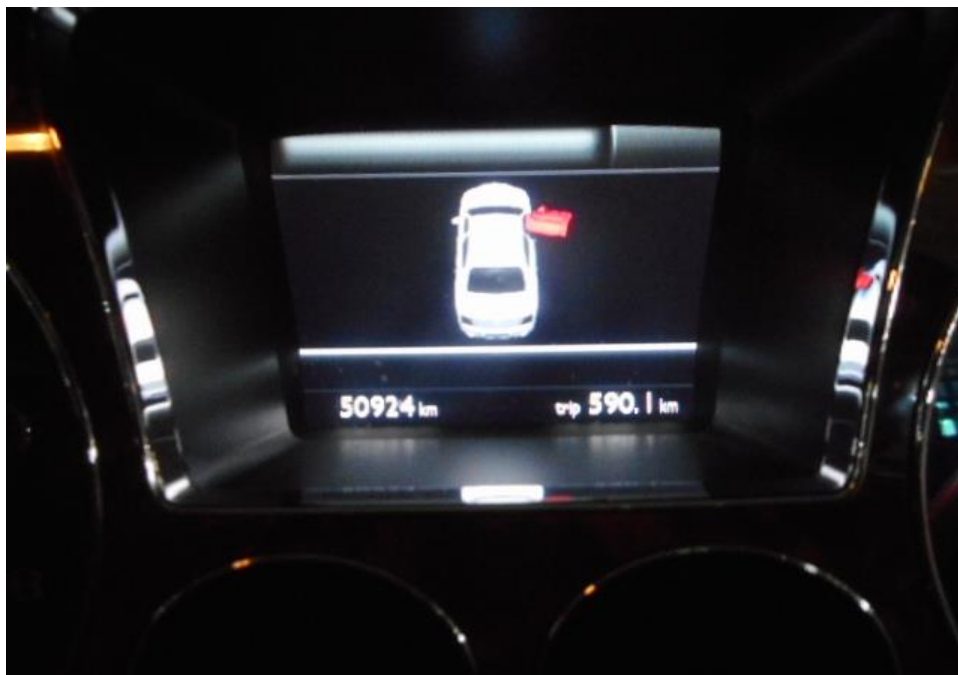


Photo 1 shows a general view of the instrument cluster of the Motor Car at the time of my inspection. The mileage of the Motor Car was 50,924km



Photo 2 shows a general view of the chassis plate of the Motor Car at the time of my inspection. The chassis number of the Motor Car SCBBE53W1DC081296.



Photo 3 shows a general view of the Motor Car at the time of my inspection. The Motor Car was observed to be intact and unaffected by the incident.



Photo 4 shows a general view of the right body of the Motor Car at the time of my inspection. The Motor Car was observed to be intact and unaffected by the incident.



Photo 5 shows a general view of the left body of the Motor Car at the time of my inspection. The Motor Car was observed to be intact and unaffected by the incident.



Photo 6 shows a general view of the rear body of the Motor Car at the time of my inspection. The Motor Car was observed to be intact and unaffected by the incident.



Photo 7 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 4.7mm. 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 8 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 3.1mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.



Photo 9 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 2.7mm. 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 10 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 4.8mm. 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

9. 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 incident. The brake fluid, engine oil, engine coolant and power steering fluid were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.
10. 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.
11. 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 11 – 16 below.



Photo 11 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 incident. There was also no sign(s) or indication(s) of fresh fluid leakage and/or fluid stain within the engine compartment



Photo 12 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.

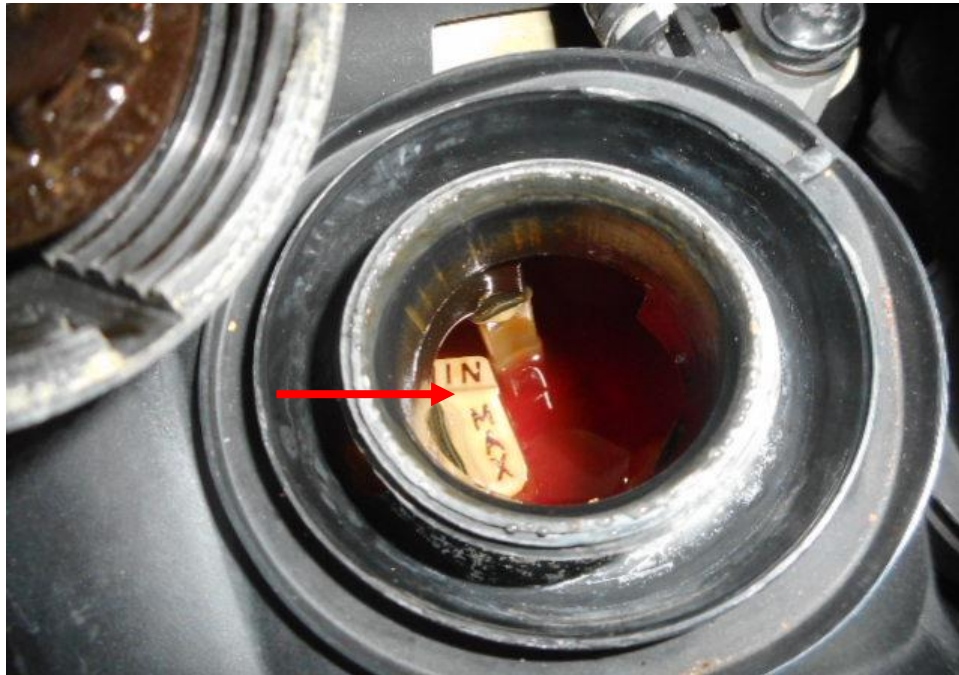


Photo 13 shows the engine coolant reservoir of the Motor Car at the time of my inspection. The engine coolant was observed to be of sufficient level (arrowed) and without any visible contamination.



Photo 14 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 15 shows the power steering fluid 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 16 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.

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 also 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 rack and pinion, tie rods, tie rod ends and ball joints had revealed that these components were all generally in good condition. See photo 17 - 24 below.



Photo 17 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod end (arrowed). 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 incident. There was also no sign of fluid stain(s) observed on the various undercarriage components.



Photo 18 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.

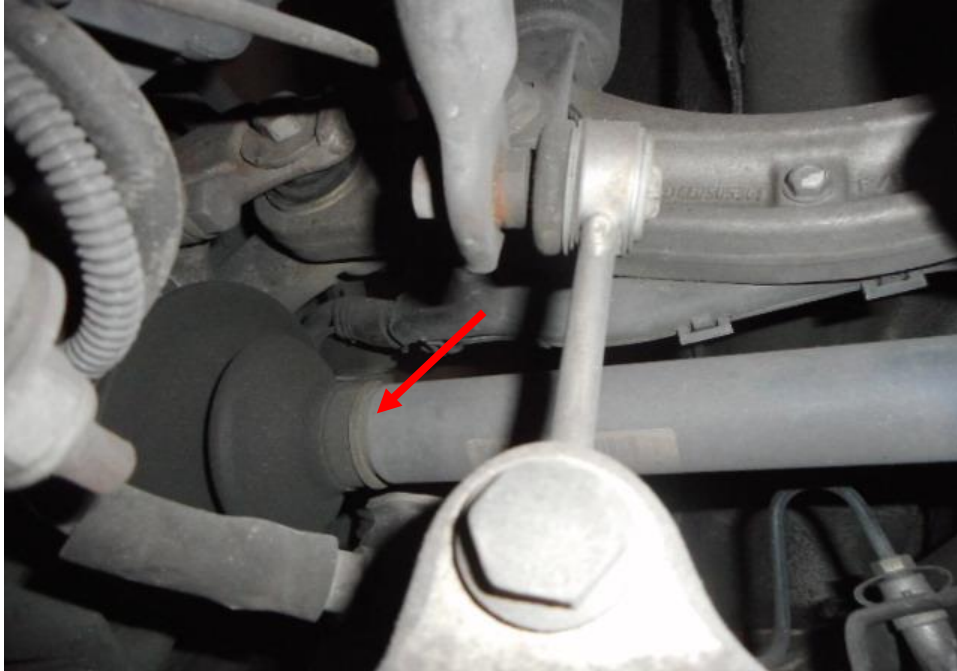


Photo 19 shows the various undercarriage components at the rear left wheel of the Motor Car, in particular the drive shaft (arrowed). The various steering components were all found to be intact, suggesting that the steering system of the Motor Car was likely to be in serviceable condition at the material time of incident. There was also no sign of fluid stain(s) observed on the various undercarriage components.

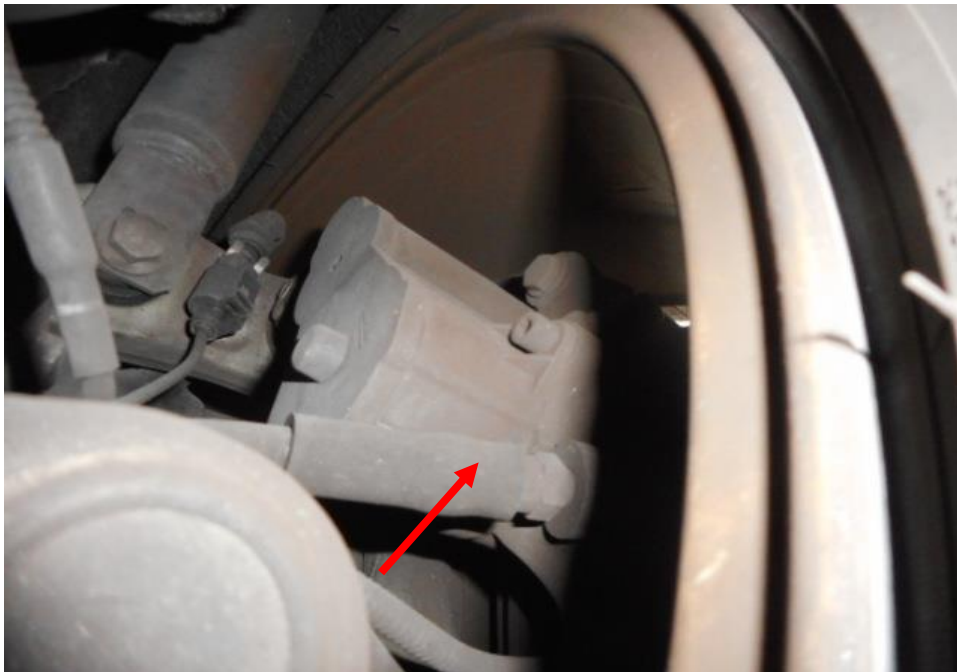


Photo 20 shows the brake pipe (arrowed) at the rear right wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car. My static tests of the Motor Car's braking system, along with my visual examination of the various mechanical components in the 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 incident.



Photo 21 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 incident.

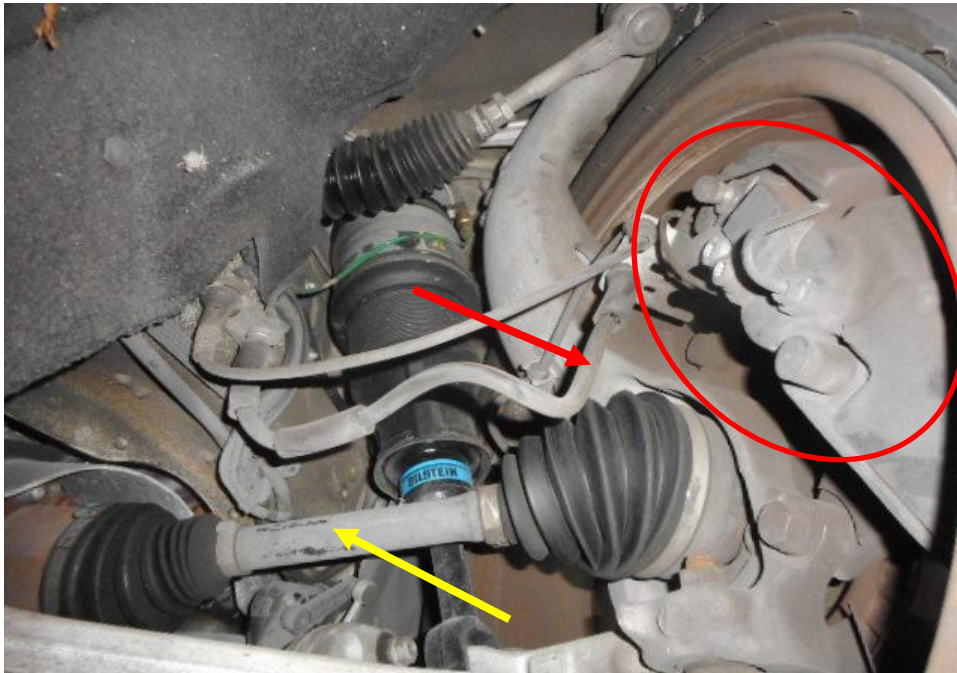


Photo 22 shows the brake hose/pipe (red arrow) at the front right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal and its front right driveshaft (yellow arrow) etc had revealed all to be intact and without visible damage at the time of incident. There was also no sign of fluid stain(s) observed on the various undercarriage components.



Photo 23 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 incident. There was also no sign of fluid stain(s) observed on the various undercarriage components.



Photo 24 shows the front right wheel of the Motor Car turned to its full left. During my steering system test, I did not experience any abnormal free play and/or resistance when I had turned the steering wheel towards full left and full right. This would suggest that the steering system of the Motor Car was likely to be in serviceable condition at the material time of incident.

Electronic Safety / Warning Indicators

14. Motor Car's automatic self-test of the functionality of its various electronic operating systems like the Anti-Lock Brake System (ABS), Traction Control System (TCS), 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.
15. However, its engine warning check light remained illuminated on the instrument panel after the self-test, this was a result of insufficient air in the air-suspension system of the Motor Car as it was in storage in the vehicle pound for a period of time and all the air in the system had deflated out resulting in the body of the Motor Car being lowered than normal, triggering the engine check light. See photo 25 - 28 below.



Photo 25 shows the warning light for Anti-Lock Brake System (ABS), Traction Control System (TCS), 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 26 shows only the engine check light (arrowed) remained illuminated due to the insufficient air in the air suspension as a result of a period of storage in the vehicle pound resulting in the body of the Motor Car being lowered than normal, triggering the check light. However, there were no other 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, TCS and SRS.



Photo 27 shows only the engine check light (arrowed) remained illuminated due to the insufficient air in the air suspension as a result of a period of storage in the vehicle pound resulting in the body of the Motor Car being lowered than normal, triggering the check light.



Photo 28 shows the front right wheel of the Motor Car. The vehicle body was observed to be lowered than normal (arrowed) due to the insufficient air in the air suspension as a result of a period of storage in the vehicle pound.

Seat Belts

16. 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

17. A short operational test of the Motor Car, to primarily determine whether there was any abnormality to its various operating systems like its engine system, its transmission system, steering system and braking system was subsequently carried out. The test was conducted by driving the Motor Car forward, stopping, before reversing and coming to a stop again.
18. 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 were 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. (Refer to photo 2 & 24)

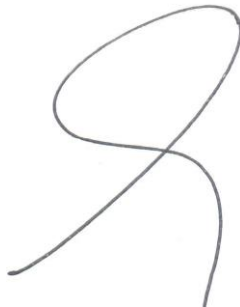
Conclusion

19. From my physical inspection of the Motor Car, it appears that its engine system, steering system, braking system and transmission system were all in serviceable condition. I did not find any evidence(s) to suggest that there was possible mechanical failure to the Motor Car that may have caused and/or contributed to the incident. This is also taking into consideration that the operational test of the Motor Car, which I had conducted, did not produce any sign(s) or symptom(s) to suggest that there was any abnormality to its various operating systems.
20. The 4 tyres fitted on 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 2.7mm – 4.8mm.



Sherwin Beh

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