

Your Ref: TP/IP/32680/2022
Our Ref : CI/TPD22013023/P

17th March 2023

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SJK 1934Y

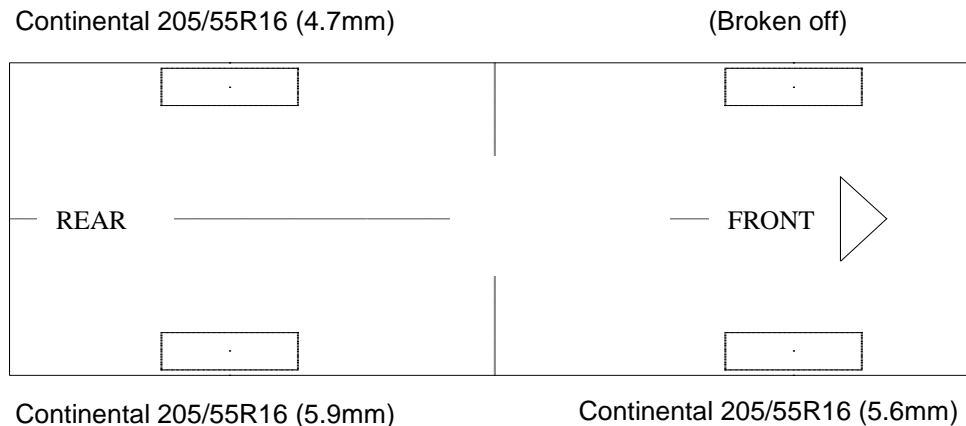
1. I refer to your request on 13th December 2022 to conduct a physical inspection of a Motor car bearing registration number SJK 1934Y (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 3rd December 2022.
2. The objective of the inspection is to determine if there 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 8th March 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.
5. The Motor car was observed to have sustained damage at its front, left and rear portion. Its front windscreen, front bumper, front left fender, front left headlamp, left door, left body panel, rear left brake lamp and rear boot was the body parts that were damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.

Tyres and Wheel Rims

6. The Motor Car's front left wheel rim was observed to be broken off and the front left tyre was observed to be missing as a result of the accident. However, the front right, both rear left and right tyres and wheel rims 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 3 tyres. The front and rear left tyres were observed to be sufficiently inflated for vehicular operation. The tyre brand, tyre size and remaining tread depth of the 3 tyres were recorded as follows:-



7. The front left wheel rim was observed to be broken off and the front left tyre was observed to be missing as a result of the accident. However, the front right, both rear left and right tyres and wheel rims were observed to be wrapped around alloy wheel rims that were found to be without any damages. See photo 1 – 16 below.



Photo 1 shows a general view of the Motor Car's rear body at the time of my inspection. The Motor car was observed to have sustained damage at its rear portion. Its rear boot and rear left brake lamp was the body parts that were damaged as a result of the accident.



Photo 2 shows the close up view of the Motor Car's rear body at the time of my inspection. The Motor car was observed to have sustained damage at its rear portion. Its rear boot (red circle) and its rear left brake lamp (yellow circle) was damaged as a result of the accident.



Photo 3 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 windscreen, front bumper, front left fender, front left headlamp was the body parts that were damaged as a result of the accident.



Photo 4 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 windscreen (circled) was damaged as a result of the accident.



Photo 5 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 bumper (yellow circle) and its front left headlamp (red circle) was damaged as a result of the accident.



Photo 6 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 left fender (red circle) was damaged as a result of the accident.



Photo 7 shows a general view of the Motor Car's left body at the time of my inspection. The Motor car was observed to have sustained damage at its left portion. Its left door and left body panel was damaged as a result of the accident.



Photo 8 shows a close up view of the Motor Car's left body at the time of my inspection. The Motor car was observed to have sustained damage at its left portion. Its left door (circled) was 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 Motor car was observed to have sustained damage at its left portion. Its left body panel (circled) was damaged as a result of the accident.



Photo 10 shows a general 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 been undamaged by the accident.



Photo 11 shows the location of where the front left tyre and wheel rim of the Motor Car should be, however observed that the wheel rim was broken off and tyre was missing as a result of the accident.



Photo 12 shows the front left wheel rim of the Motor Car observed that the wheel rim was broken off and damaged (circled) and the tyre was missing as a result of the accident.

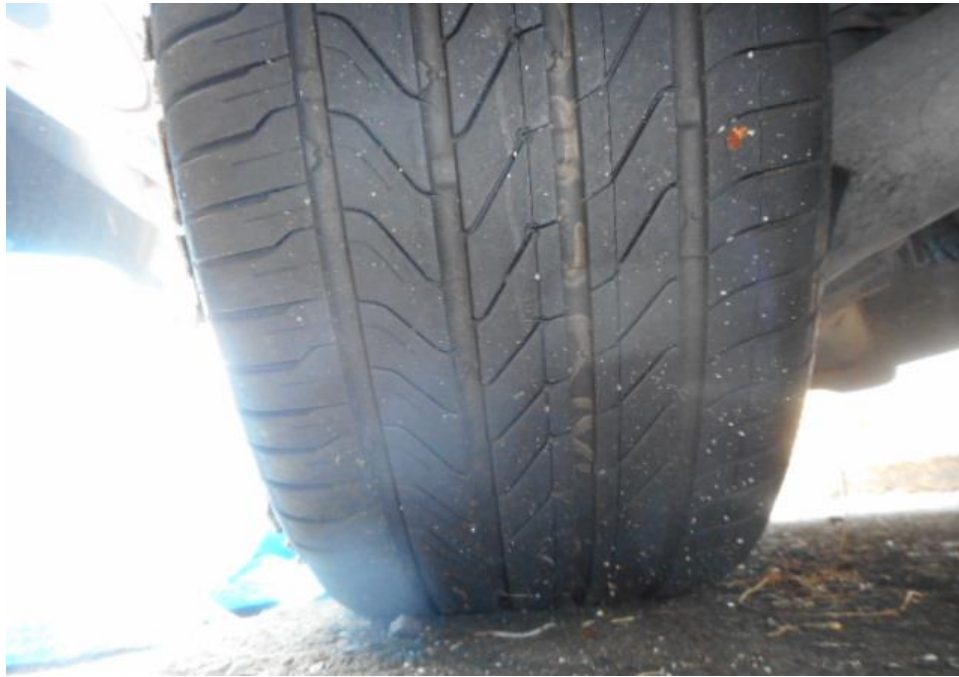


Photo 13 shows the general condition of the rear left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 5.9mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



Photo 14 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 4.7mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



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 5.6mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



Photo 16 shows the deployment of the Supplemental Restraint System (SRS) airbag in the Motor Car as a result of the accident.

Engine Compartment & Operating Fluids

8. Upon examination of the engine compartment of the Motor Car, I had observed only brake fluid in the reservoir to be insufficient due to the missing brake caplier and broken brake hose at the front left wheel as a result of the accident. However, all the other parts and components inside the engine compartment was observed to be intact and unaffected by the accident. The engine coolant and engine oil were all found to be of sufficient level for operating purposes. Visually, there was also 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 17 -21 below.



Photo 17 shows a general view of the Motor Car's engine compartment. Only the brake fluid in the reservoir was observed to be insufficient due to the missing brake caplier and broken brake hose at the front left wheel as a result of the accident. The other 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.

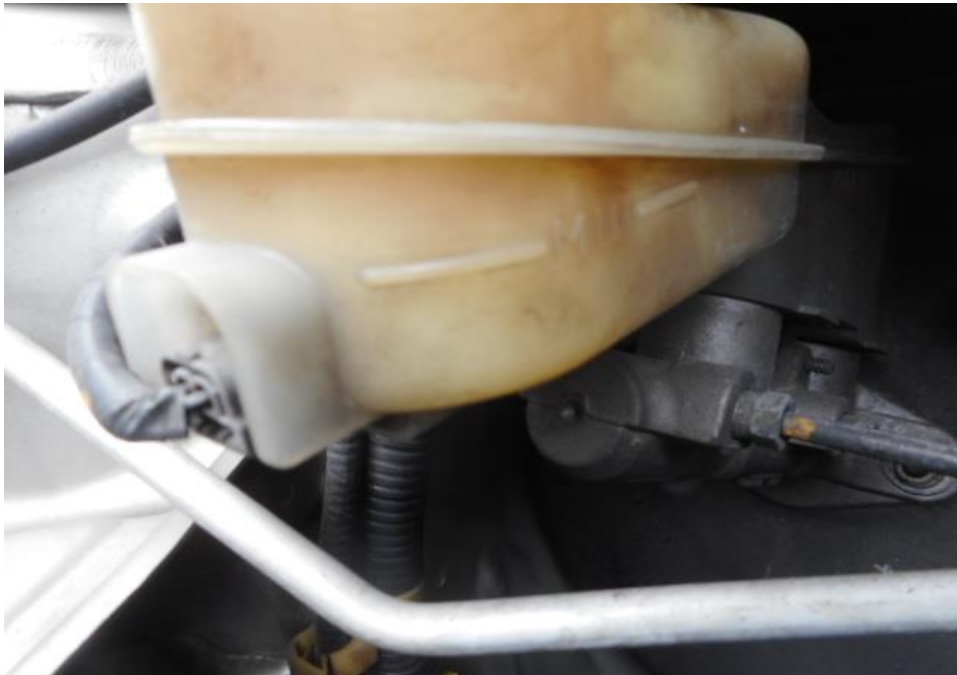


Photo 18 shows checks being carried out to the brake fluid reservoir of the Motor Car at the time of my inspection. The brake fluid was observed to be of insufficient due to the missing brake caplier and the broken brake hose at the front left wheel as a result of the accident.



Photo 19 shows the engine coolant reservoir of the Motor Car at the time of my inspection. The coolant was observed to be of sufficient level (arrowed) and without any visible contamination.



Photo 20 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 21 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, and the engine was not started up and also the damages sustained from the accident resulting in the missing front left brake caplier, front left brake hose, front left steering tie rod and front left driveshaft.
12. The visual examination of the various steering components had revealed that the front left steering tie rod and the front left driveshaft was missing of the front right wheel was damaged was a result of the accident. However, the other the other steering components of the other wheels were all generally intact.
13. My visual examination of the various braking components had revealed that the front left brake caplier was missing and front left brake hose was damaged as a result of the accident. However, the other the other braking components of the other wheels were all generally intact. The brake fluid in the reservoir was of insufficient level, due to the missing brake caplier and broken brake hose which had caused a brake fluid leakage. See photo 22 - 28 below.

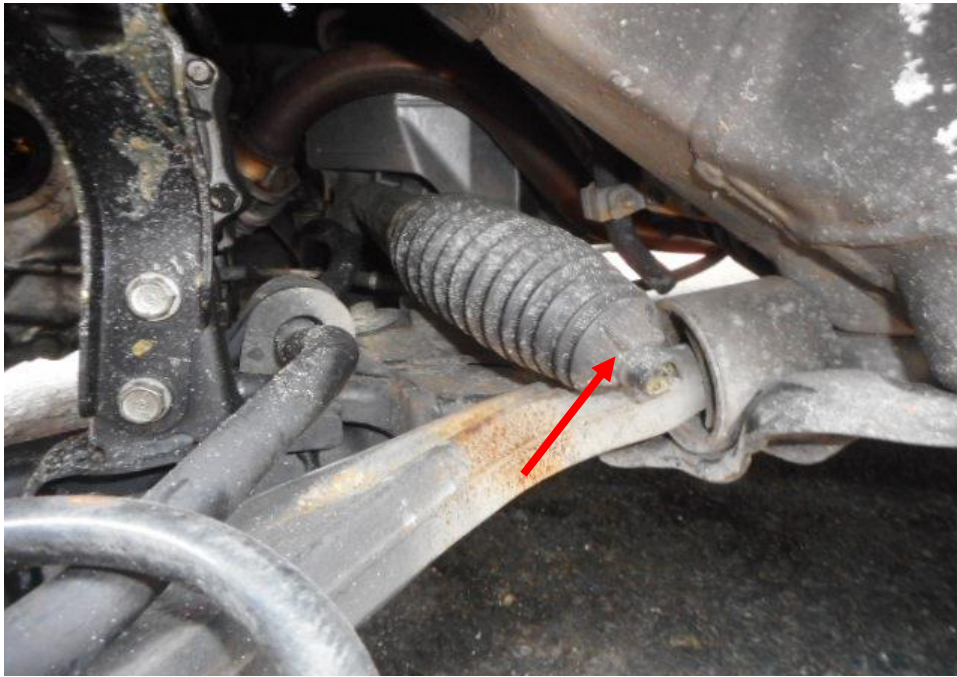


Photo 22 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the front left steering tie rod (arrowed) was observed to be missing as a result of the accident.

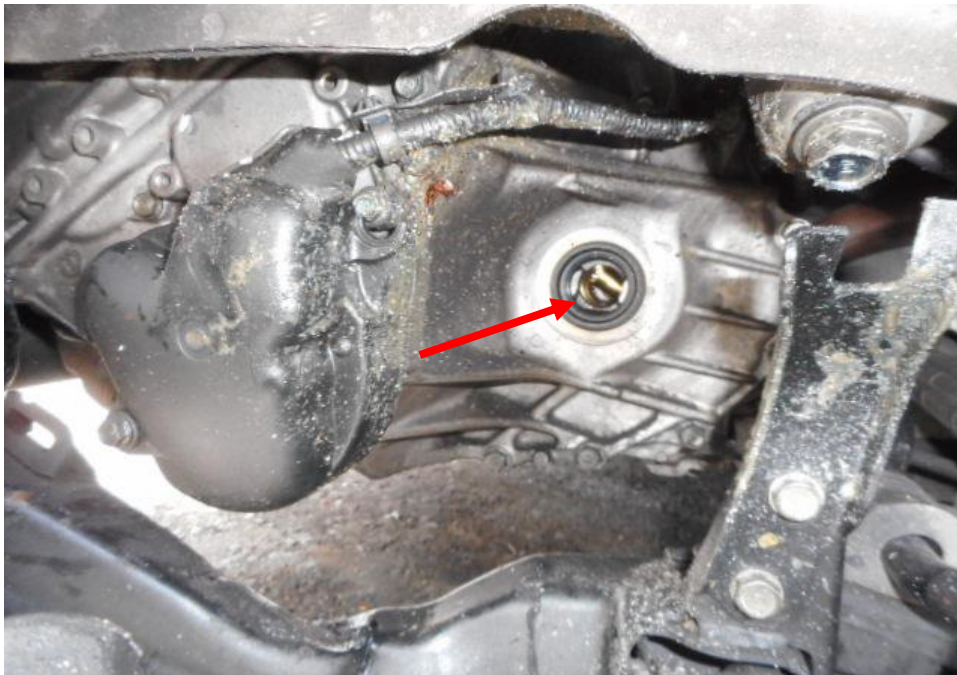


Photo 23 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the front left driveshaft (arrowed) was observed to be missing as a result of the accident.

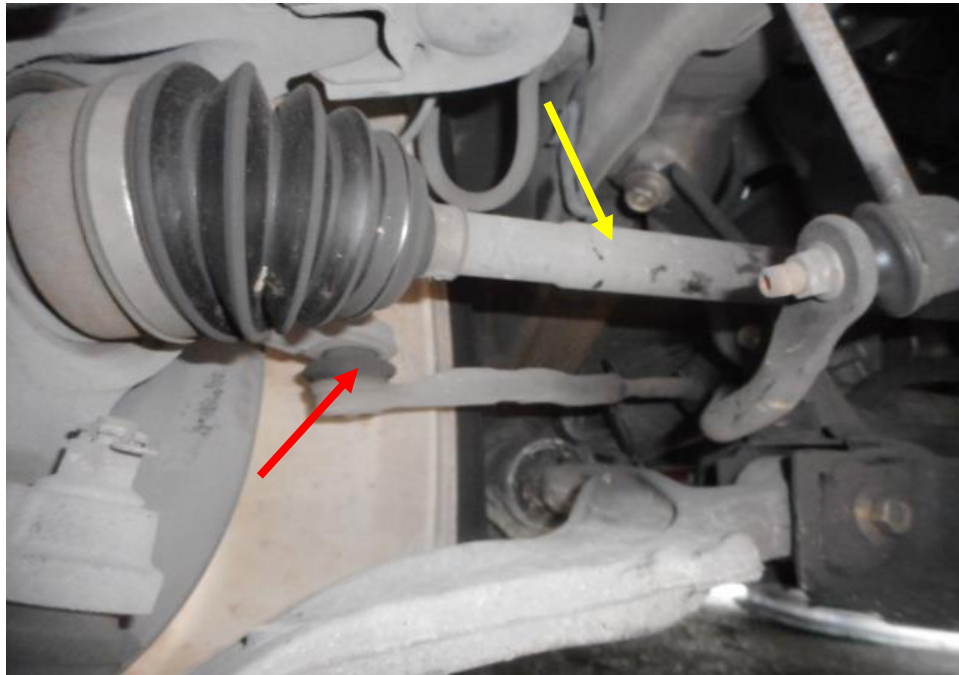


Photo 24 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod (red arrow) and the driveshaft (yellow arrow) was observed to be intact.

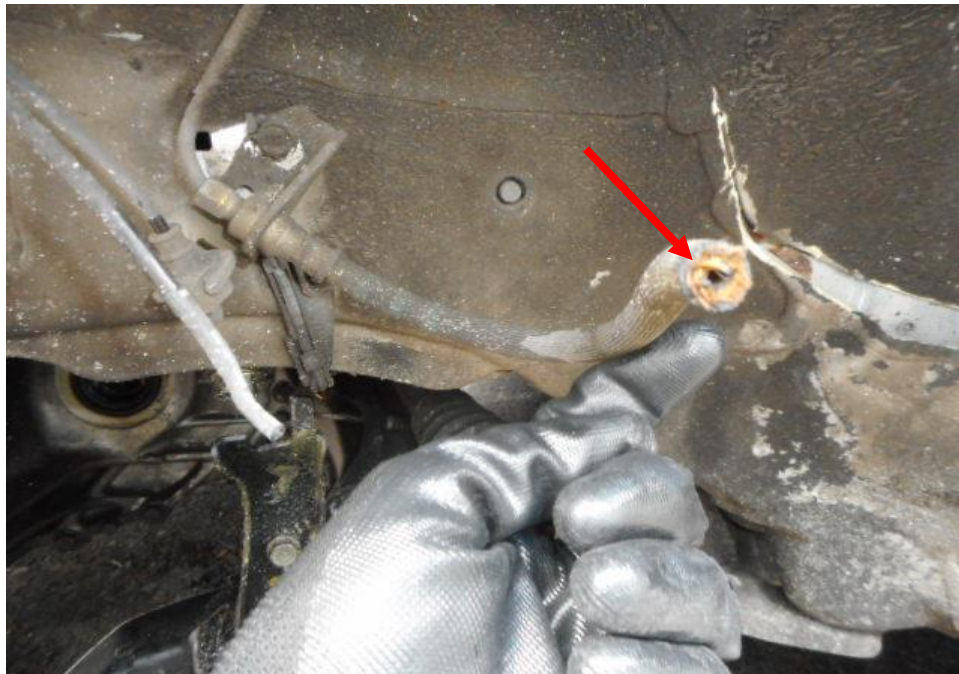


Photo 25 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. I did observed leakage of brake fluid from the broken brake hose due to the missing brake caplier which was caused by the result of the accident at the time of my inspection of the Motor Car.



Photo 26 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 27 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 28 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.

Electronic Safety / Warning Indicators

14. 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 not started up.

Seat Belts

15. The front right and left seat belts of the "Motor Car" was worn at the material time of accident as the respective pre-tensioners that were fitted at the side of each seat was activated upon the material time. See photo 29 and 30 below.



Photo 29 shows that the seat belt on the right seat was worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.



Photo 30 shows that the seat belt on the left seat was worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.

Operational Behaviour of the Motor Car

16. 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 not started up and the damages sustained as a result of the accident to the front left brake caplier, front left brake hose and front left steering tie rod of the front left wheel causing them to be missing and damaged.

Conclusion

17. 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.

18. The Motor Car's front left tyre was missing and wheel rim was observed to be broken off as a result of the accident. However, the front right and both rear tyres of the Motor Car were found to be in serviceable condition. The front right and both rear tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 4.7mm to 5.9mm.



Sherwin Beh

Technical Investigator



Ang Bryan Tani

AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA

Senior Technical Investigator

Technical Investigation & Reconstructionist (SAE-A)

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