

Your Ref: TP/IP/09011/2021
Our Ref : CI/TPD21003853/P

30th March 2021

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SGJ 4056C

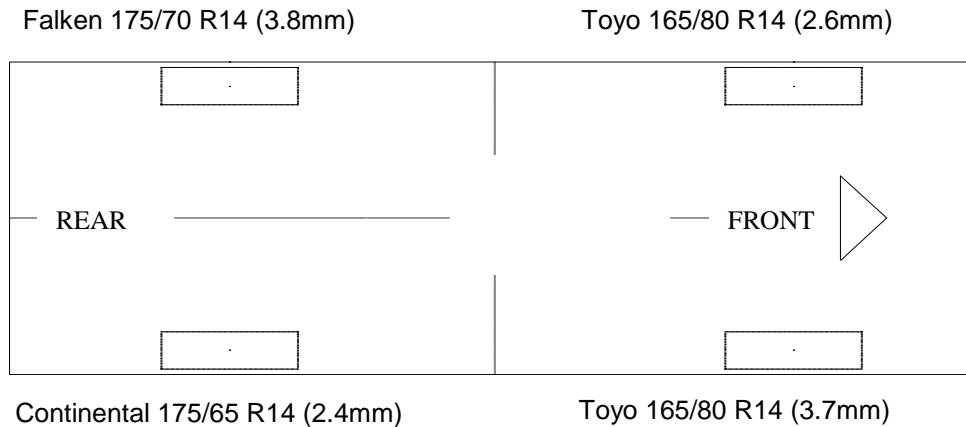
1. I refer to your request on 25th March 2021 to conduct a physical inspection of a Motor car bearing registration number SGJ 4056C (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 20th February 2021.
2. The objective of the inspection is to determine if there 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 30th March 2021 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 was not recorded due to damage to the ignition system and engine system as a result of the accident.
5. The Motor car was observed to have sustained extensive damage at its front portion. Its front windscreen, front bonnet, front bumper, front right fender was amongst the body parts and various components in the engine compartments were also 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 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:-



7. The 4 tyres were observed to be wrapped around alloy wheel rims that were found to be without any damage. The Supplemental Restraint System (SRS) was activated as a result of the accident. See photo 1 – 13 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.

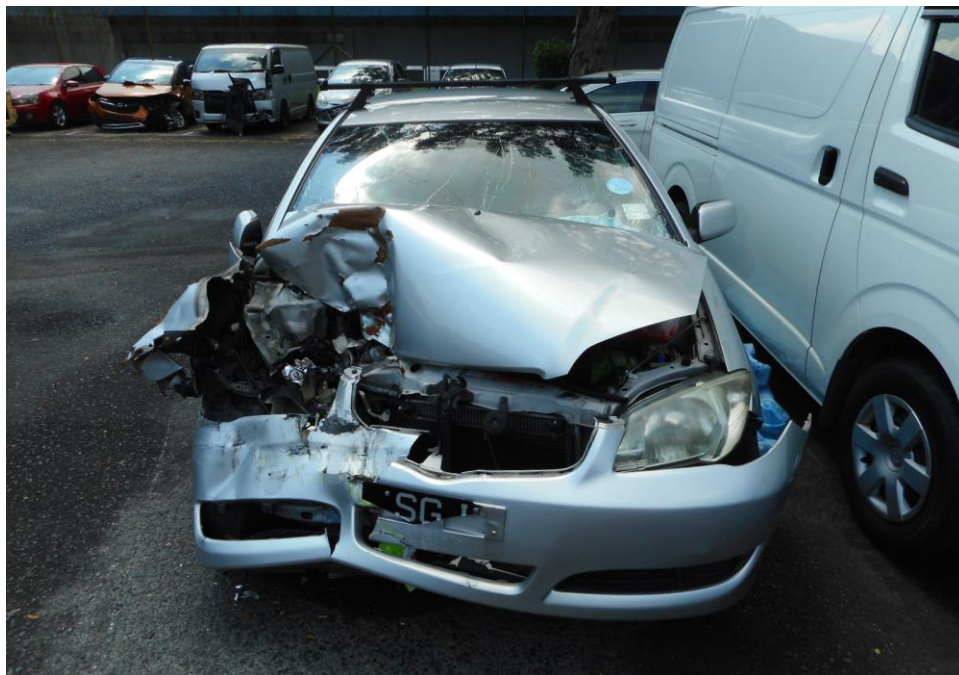


Photo 2 shows a general view of the Motor Car's front body at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its front windscreen, front bonnet, front bumper, front right fender was amongst the body parts and various components in the engine compartments were also damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated 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 windscreen (red circle) and front bonnet (red circle) was 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 bumper (circled) and front right fender (arrowed) was amongst the body parts and various components in the engine compartments were also 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 engine (circled) 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 ignition system (circled) was damaged as a result of the accident.

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Photo 7 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 8 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 9 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 3.7mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

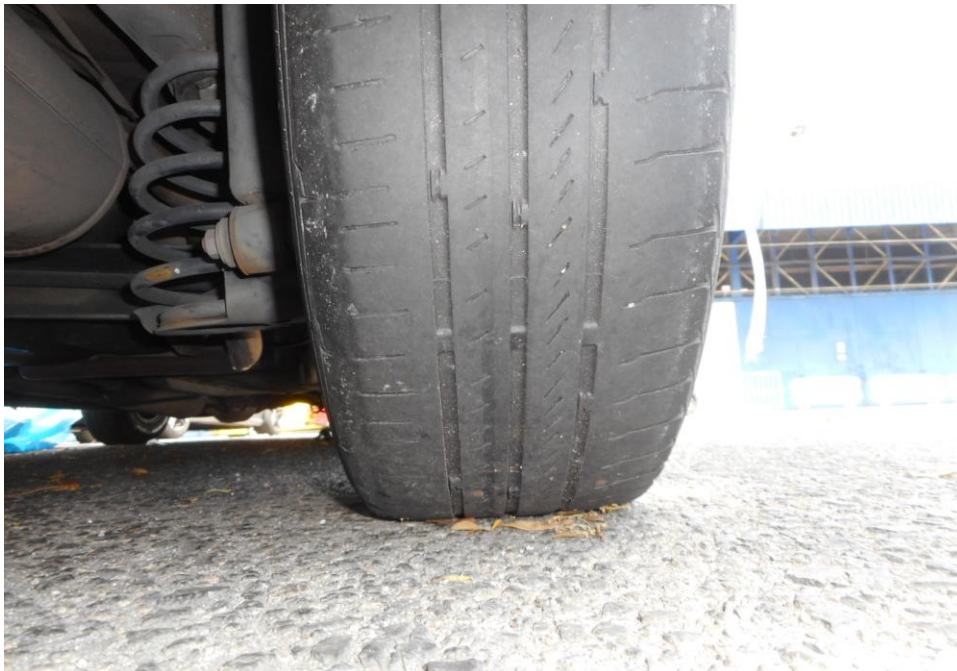


Photo 10 shows the condition of the rear right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 2.4mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



Photo 11 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 3.8mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



Photo 12 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 2.8mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



Photo 13 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. We were unable conduct check on the engine compartment and operating fluids as this components were all damaged as a result of the accident at the time of our inspection.

Braking System & Steering System

9. For this inspection, I was not able to conduct any tests on the steering system of the Motor Car due to the Motor Car running on electric power steering (EPS) which requires the Motor Car to be started and ignition system was damaged as a result of the accident.
10. Static brake tests was unable to be conducted on the Motor Car as the brake pedal and brake booster was damaged due to the induced impact from the accident.
11. My visual examination of the various steering and braking components which had included the rack and pinion, tie rods, tie rod ends and ball joints, brake hoses and brake pipes had revealed that these components were all generally intact. See photo 14 - 20 below.

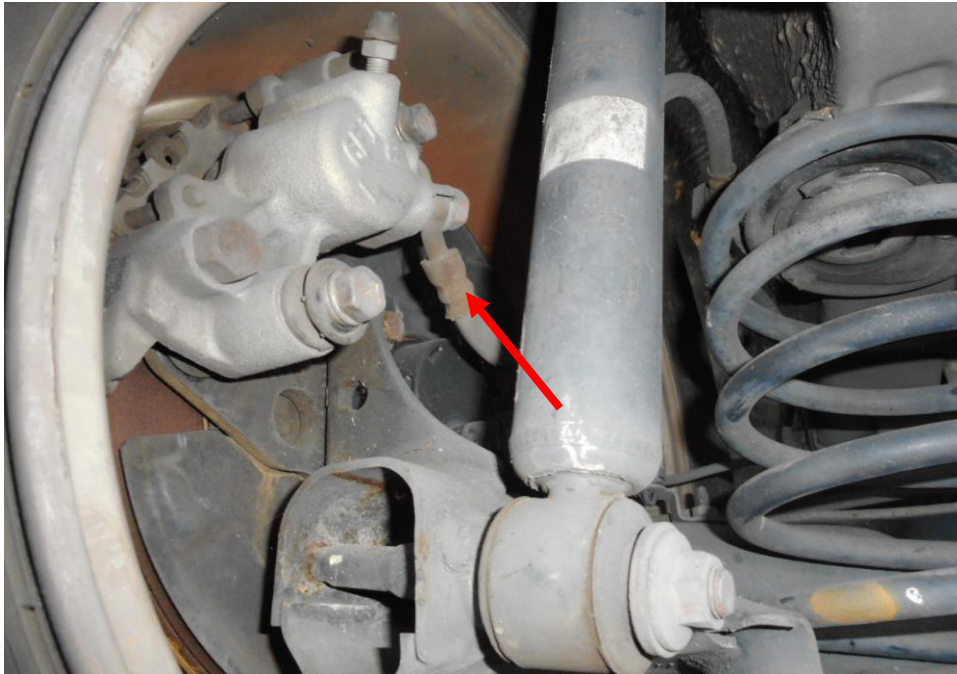


Photo 14 shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the drum brake, brake booster, brake pedal etc. had revealed all to be intact and without visible damage.

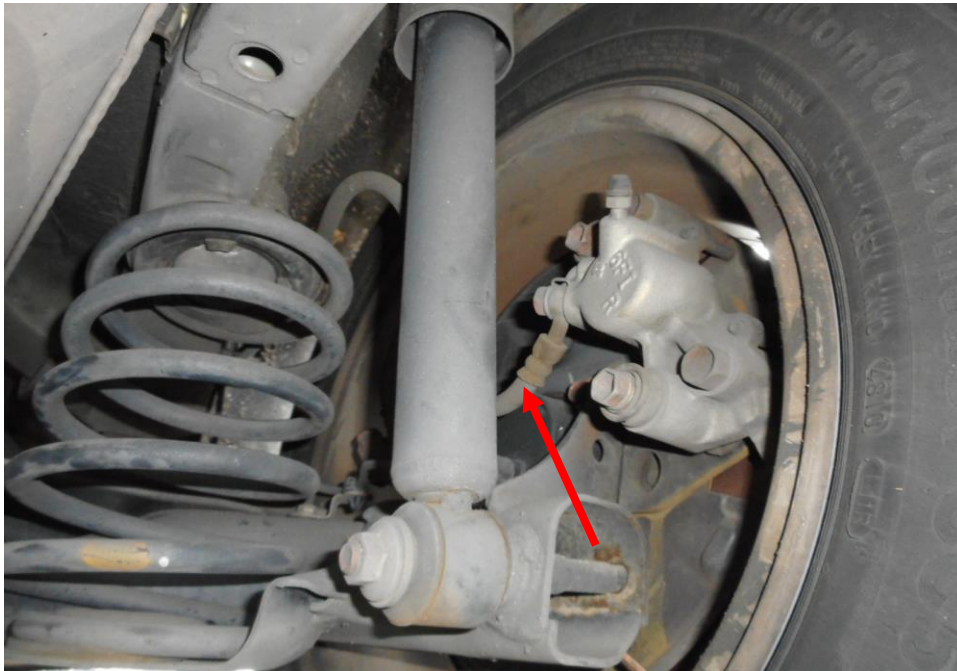


Photo 15 shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the drum brake, brake booster, brake pedal etc. had revealed all to be intact and without visible damage.

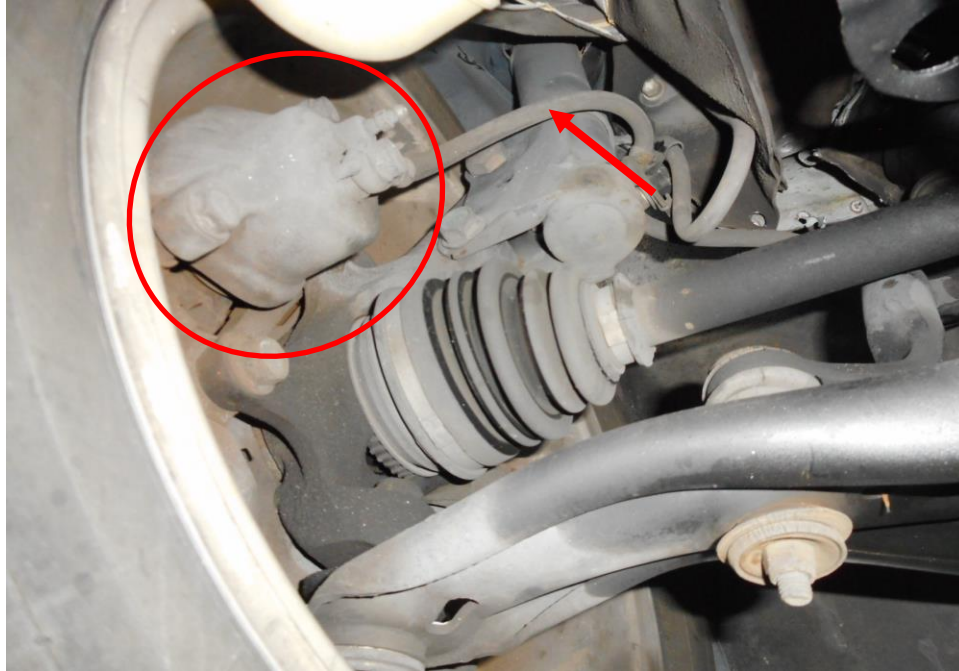


Photo 16 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage at the time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.

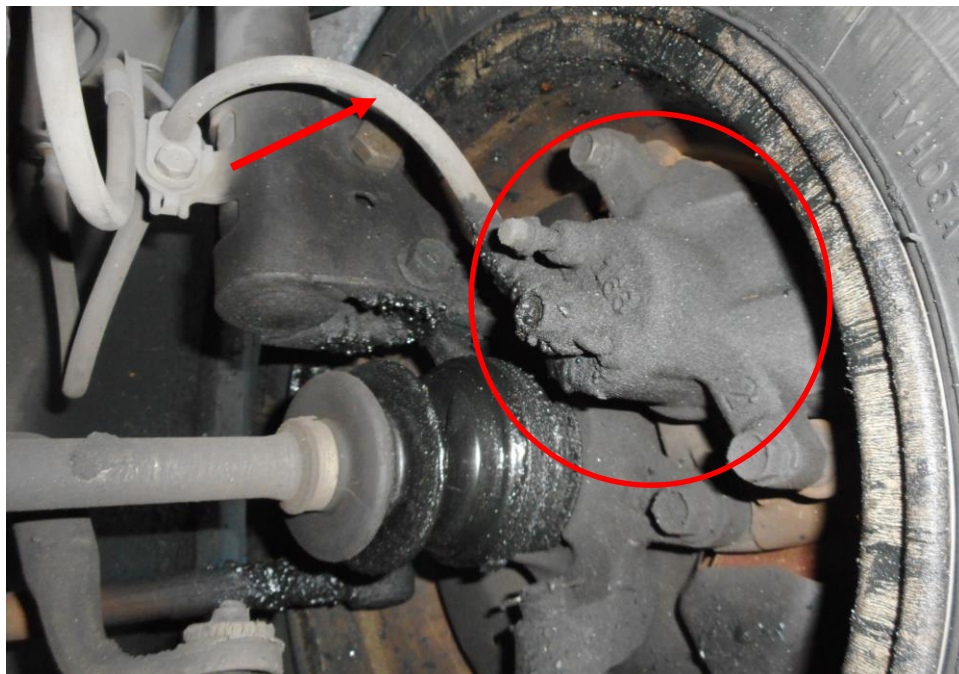


Photo 17 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage at the time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components. However, observed was old grease stains around the surroundings.

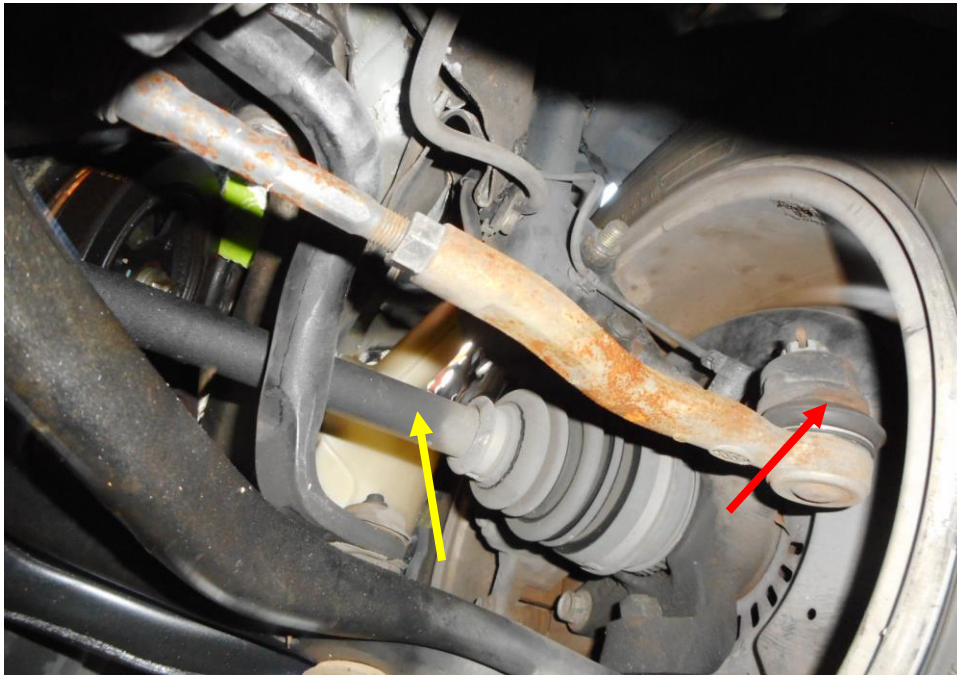


Photo 18 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod end (arrowed) and drive shaft (yellow arrow). The various steering components were all found to be intact, suggesting that the steering system of the Motor Car was likely to be in serviceable condition at the material time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.



Photo 19 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. However, observed was old grease stains around the surroundings.



Photo 20 shows the close up view of the Motor Car's brake pedal and brake booster at the time of my inspection. Its brake pedal, brake pedal (red arrowed) and accelerator pedal (yellow arrow) was observed to be damaged as a result of the induced impact from the accident.

Electronic Safety / Warning Indicators

12. The Motor Car's automatic self-test of the functionality of its various electronic operating systems was not able to be conducted as there was damaged ignition system and engine system as a result of the accident. (unable to be started)

Seat Belts

13. The front right and left seat belt of the "Motor Car" was not 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 21 and 22 below.



Photo 21 shows that the seat belt on the right seat was not 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 22 shows that the seat belt on the left seat was not 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

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 and ignition systems of the Motor Car damage 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, transmission system, steering system, braking system and suspension system.
16. However, visual inspection of the various undercarriage components of the braking and steering system had revealed that these components were all generally intact and was not affected by the accident.
17. 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 2.4mm to 3.8mm.



Sherwin Beh

Technical Investigator



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