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Your Ref: TP/IP/24910/2022 13 January 2023
Our Ref : CI/TPD22011546/N

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

INSPECTION REPORT OF MOTORCYCLE VBM 4278

1. We refer to your request dated 31 October 2022 to conduct a physical inspection of a motorcycle bearing registration number VBM 4278 (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 14 September 2022.

2. The purpose of this inspection is to primarily determine if there was any possible mechanical failure to the Motorcycle that may have contributed to the accident.

3. Following the request, we had carried out a physical inspection of the Motorcycle on 12 January 2023 at the premises of Traffic Police vehicle pound, 517 Airport Road Singapore 539942. We now set out below our observations and comments with respect to this inspection.

General Condition

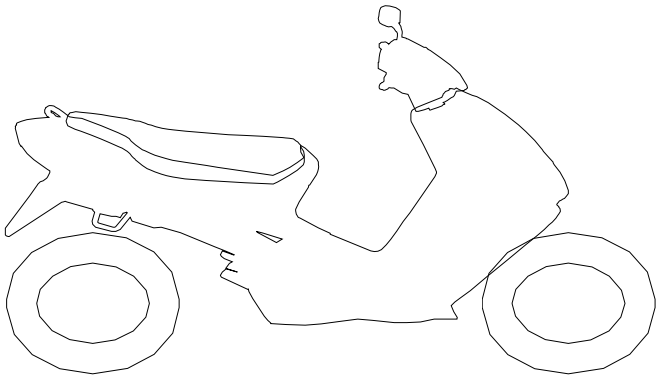
4. The mileage of the Motorcycle could not be recorded at the time of our inspection due to unavailability of the ignition key.

5. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its steering stem, headlight assembly, front cowling, front mudguard, side cowlings, left side mirrors, front brake lever and left rear side cover, amongst others.

Tyres and Wheel Rims

6. The condition of the Motorcycle's front tyre was observed to be in serviceable condition. We did not observe any tear, burst mark(s) and/or punctured hole(s) on the sidewalls as well as across the tread of the 2 tyres. The 2 tyres were both observed to be sufficiently inflated for vehicular operation.

7. The tread pattern of the front tyre was clearly visible. However the rear tyre was observed to be bald. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-



Maxxis 70/80 - 17 (0mm)

Maxxis 70/80 - 17 (2mm)

8. The 2 tyres were wrapped around alloy wheel rims. At the time of our inspection, we did not observe any visible damage on the front and rear wheel rim of the Motorcycle. See photos 1 – 17 below.

Photo 1 shows a general view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around.

Photo 2 shows a general view of the right body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around. The mileage of the Motorcycle could not be recorded at the time of our inspection due to unavailability of the ignition key.

Photo 3 shows a general view of the left body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around.

Photo 4 shows a general view of the rear portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its steering stem, headlight assembly, front cowling, front mudguard, side cowlings, left side mirrors, front brake lever and left rear side cover, amongst others.

Photo 5 shows a closer view of the grazed front mudguard of the Motorcycle that as a result of the accident (arrowed).

Photo 6 shows the missing headlight assembly (arrowed) of the Motorcycle as a result of the accident.

Photo 7 shows a closer view of the grazed right cowling of the Motorcycle as a result of the accident.

Photo 8 shows a closer view of the grazed front cowling of the Motorcycle as a result of the accident (arrowed).

Photo 9 shows the right handlebar end and front brake lever (arrowed), which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 10 shows the left handlebar end, clutch brake lever and left side mirror (arrowed), which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 11 shows a closer view of the cracked left cowling of the Motorcycle as a result of the accident (arrowed).

Photo 12 shows a closer view of the grazed left rear side cover of the Motorcycle as a result of the accident (arrowed).

Photo 13 shows grazed top box (arrowed) of the Motorcycle a result of the accident.

Photo 14 shows the rear brake pedal (circled) and right front footrest (arrowed) of the Motorcycle that had sustained damage as a result of the accident.

Photo 15 shows the grazed exhaust muffler heat shield of the Motorcycle as a result of the accident.

Photo 16 shows the condition of the Motorcycle's front tyre. The front tyre was observed to be in serviceable condition with remaining tread depth of approximately 2mm. The tyre was also observed to be sufficiently inflated for vehicular operation. We did not observe any tear, burst mark(s) and/or punctured hole(s) on the sidewalls as well as across the tread of the front tyre.

Photo 17 shows the condition of the Motorcycle's rear tyre. There was no tear, burst mark(s) and/or punctured hole(s) on the sidewalls as well as across the tread of the rear tyre. The front tyre was also observed to be sufficiently inflated for vehicular operation. However the rear tyre was observed to be bald (arrowed).

Engine & Drive Train

9. Upon examination of the Motorcycle's engine area, we had observed that the various engine related parts and components were intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the engine area of the Motorcycle.

10. The gear train of the Motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. See photos 18 – 21 below.

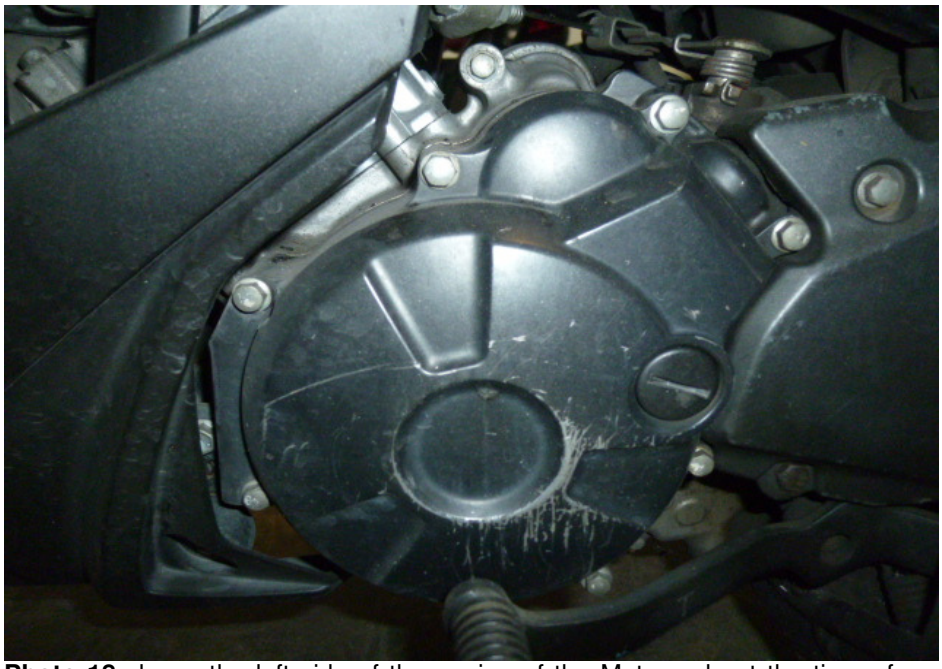


Photo 18 shows the left side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the left engine area of the Motorcycle.

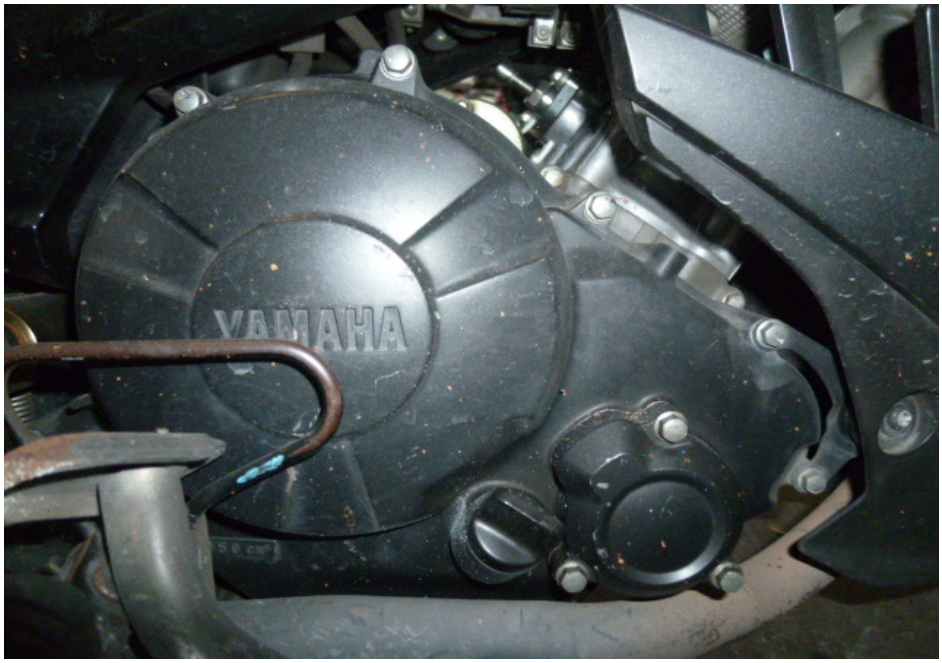


Photo 19 shows the right side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the right engine area of the Motorcycle.

Photo 20 shows the general view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

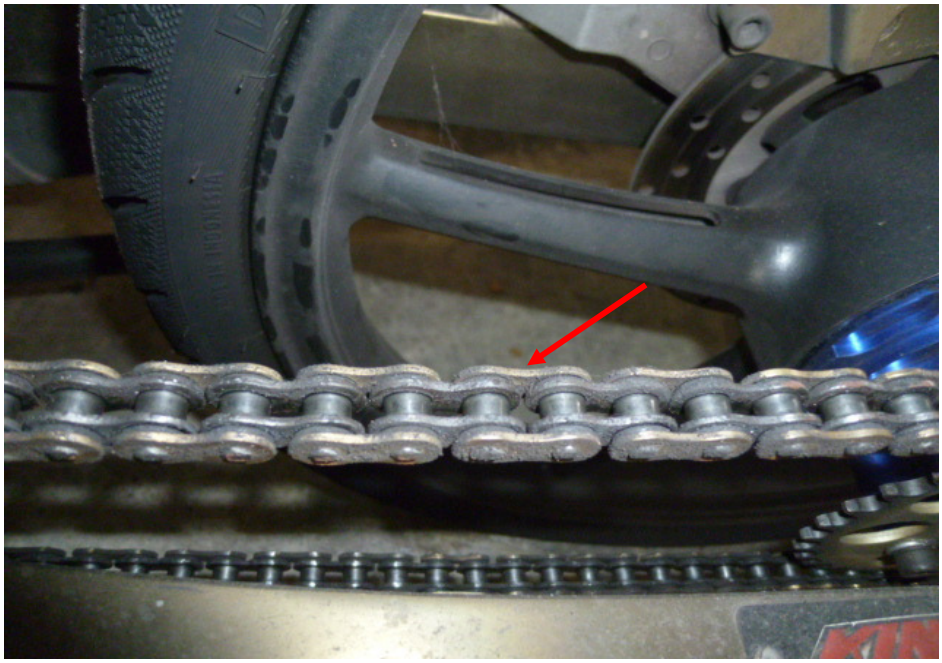


Photo 21 shows a closer view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

Steering System & Braking System

11. For this case, we were not able to conduct any test(s) on the steering system of the Motorcycle due to the damage to its steering stem. The steering stem was observed to be broken as a result of the accident.

12. The braking system of the Motorcycle was observed to be of a full hydraulic type, where hydraulic (brake fluid) pressure controls the brake for the front wheel and rear wheel. The brake for the front wheel is engaged by pressing the brake lever at the right side of the Motorcycle's handle bar while the brake for the rear wheel is engaged by stepping on the brake pedal at the right side foot rest of the Motorcycle.

13. Our visual examination of the various components in the Motorcycle's braking system like the brake discs, brake calipers, brake lever, brake foot pedal and brake hoses revealed all to be intact and without damage. There was also no leakage of brake fluid observed along the brake hoses. This was from the respective brake fluid reservoirs to the front brake caliper and rear brake caliper of the Motorcycle.

14. We were unable remove the front brake reservoir cover to examine whether the front brake fluid was without contamination due to worn out screws. However the front brake fluid was observed to be of sufficient level for operational purposes.

15. The brake fluid for the rear brake was observed to be of sufficient level for operating purposes. However it was found to be slightly contaminated.

16. Static brake tests conducted on the Motorcycle had appear to indicate that the rear braking system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon stepping on the brake pedal. This would indicate that there was no leakage of pressure/vacuum in the rear brake system.

17. For this case, we were not able to determine whether the front braking system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon pressing the front brake lever. However the accident had caused the throttle cable housing of the Motorcycle to rotate. Hence we were unable to fully depress the front brake lever to determine if there is a leakage of pressure/vacuum in the front brake system.

18. For this case, we were not able to carry out any operational tests to the steering system and braking system of the Motorcycle due to the damage of its steering stem, which had rendered the Motorcycle immobile for the operational tests. We were not able to push the Motorcycle manually forward and backward, simulating movement of the Motorcycle, for the operational tests. See photos 22 – 28 below.

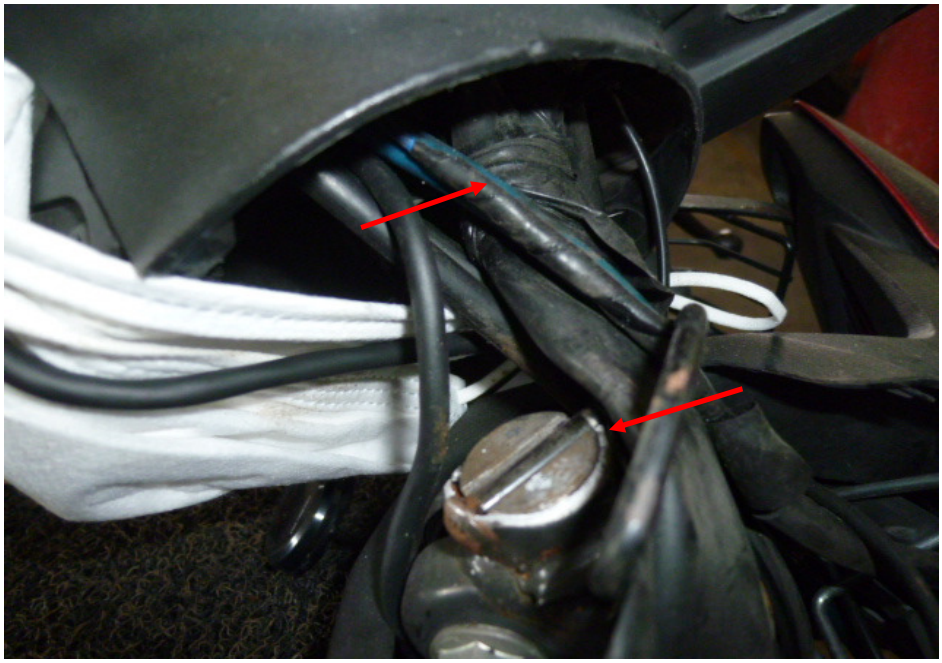


Photo 22 shows a close up view of the steering stem of the Motorcycle. The steering stem was observed to be broken as a result of the accident (arrowed). We were hence not able to conduct any tests on the steering system of the Motorcycle.

Photo 23 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

Photo 24 shows the brake fluid reservoir cover for the front brake of the Motorcycle. We were unable to examine whether the front brake fluid was without contamination due to the worn out screws (circled).

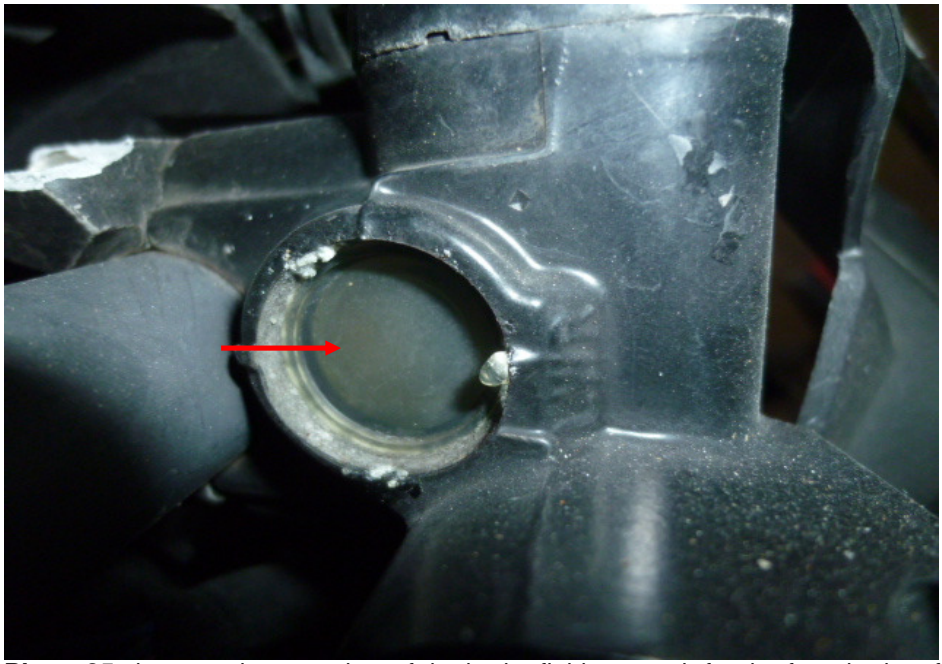


Photo 25 shows a close up view of the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be of sufficient level for operational purposes (arrowed).

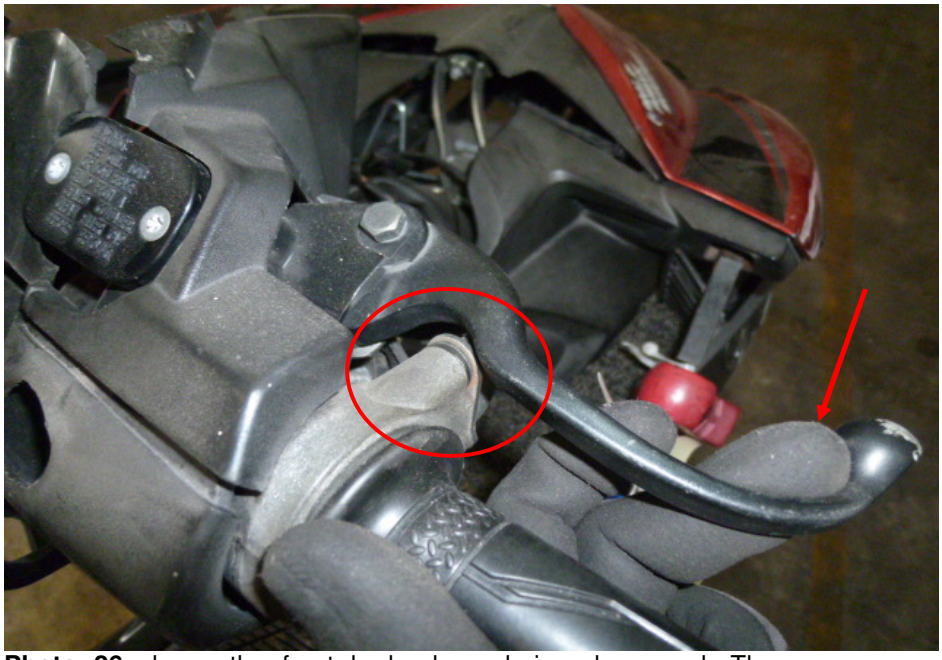


Photo 26 shows the front brake lever being depressed. There was some resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). However the accident had caused the throttle cable housing of the Motorcycle to rotate (circled). Hence we were unable to fully depress the front brake lever to determine if there is a leakage of pressure/vacuum in the front brake system.

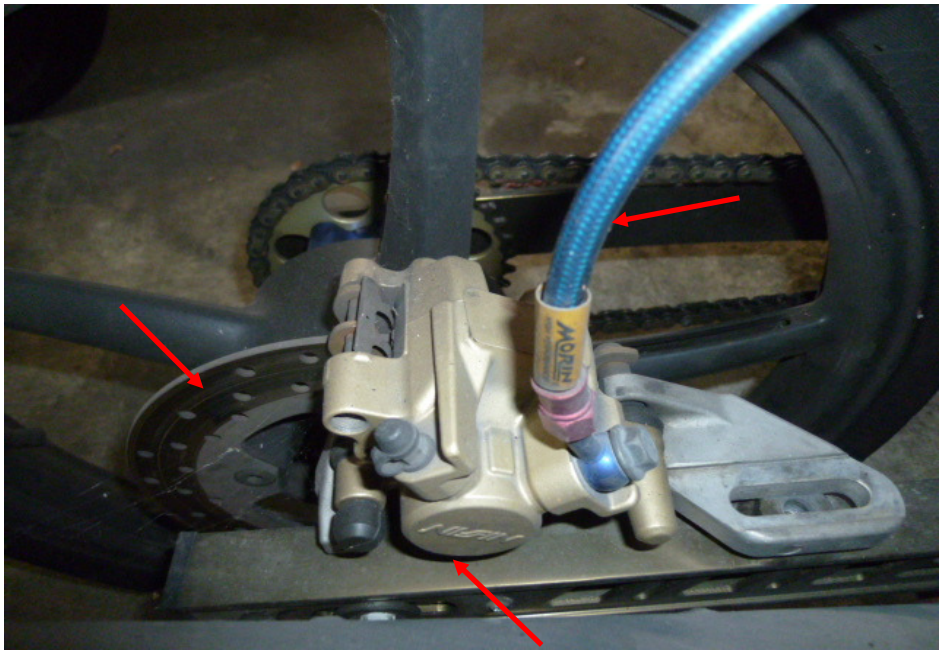


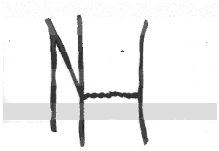
Photo 27 shows a close up view of the rear brake caliper, rear brake disc and rear brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic rear brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

Photo 28 shows the brake fluid reservoir for the rear brake of the Motorcycle. The brake fluid was observed to be of sufficient level for operating purposes. However it was found to be slightly contaminated (arrowed).

Conclusion

19. For this particular case, we were unable to determine whether there was any possible mechanical failure to the Motorcycle that may have contributed to the accident. This was mainly due to the extent of damage that it had sustained. Its steering system was damaged as a result of the accident. The rear braking system of the Motorcycle was observed to be in serviceable condition.

20. The front tyre of the Motorcycle was found to be in a serviceable condition. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the tyres. The front tyre was sufficiently inflated for vehicular operation with remaining tread depth of approximately 2mm. The rear tyre was sufficiently inflated for vehicular operation. However the rear tyre was observed to be bald.



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