

Your Ref: TP/IP/12353/2018
Our Ref :CI/TPD18010487/Z

05th April 2018

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FX 9957H

1. We refer to your request dated 07th March 2018 to conduct a physical inspection of a motorcycle bearing registration number FX 9957H (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 21st February 2018.
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 05th April 2018 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 recorded at time of inspection was 188906km.
5. The Motorcycle was observed to have sustained minor damages at the frontal portion & along its right side. The body parts that were found to have been damaged include its dislocated handle, missing right hand brake lever, broken left wing mirror & dented right brake pedal amongst others as a result of the accident.
6. This is likely due to the consistency of the accident's case facts that the Motorcyclist was seen applying brake at the very last minute and subsequently fell & collided into the rear of stationery Motor Car. See photo 1 to 6.



Photo 1 shows the speedo-meter of the Motorcycle where the mileage recorded at 188906km.



Photo 2 shows a general view of the front portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to be sustained with damages due to the accident collision. (Circled)



Photo 3 shows a general view of the right body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained minor damages at the frontal, rear portion & along its right side. (Circled)



Photo 4 shows a closer view of the left wing mirror of the Motorcycle at the time of our inspection that was observed to be damaged due to the accident collision. (Circled)

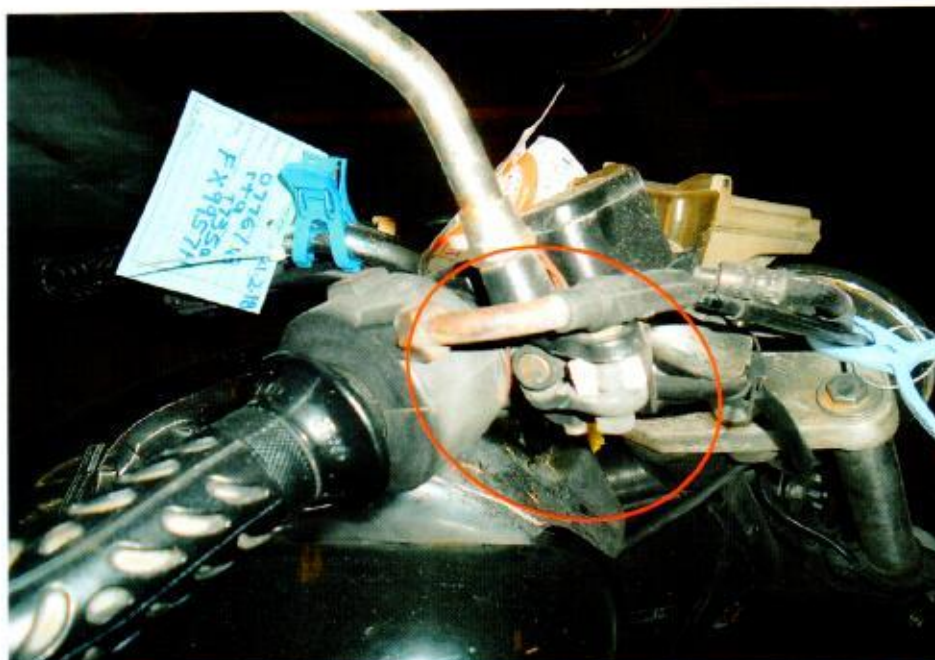


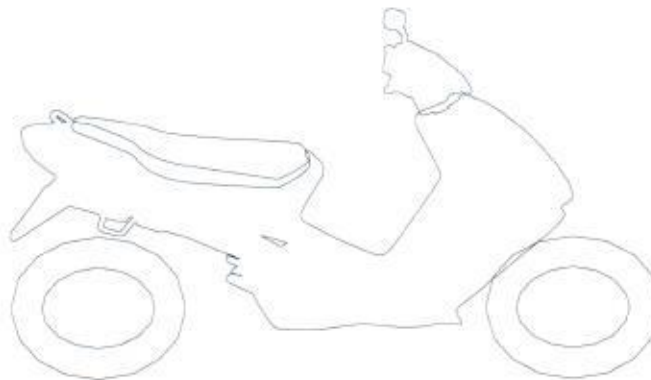
Photo 5 shows the right hand brake lever that was observed to be broken due to the accident.(Circled)



Photo 6 shows a rear view of the Motorcycle at the time of our inspection. It was observed to be in good condition not affected by the accident.

Tyres and Wheel Rims

7. The condition of the Motorcycle's 2 tyres was observed to be in serviceable condition. The tread pattern of the 2 tyres was clearly visible. 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. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-



Pirelli City Demon 130/90 - 15 (4mm)

Pirelli City Demon 3.00 - 17 (3mm)

8. The rear tyre was wrapped around alloy wheel rims that were found to be without any significant damage. See photo 7 & 8 below.



Photo 7 shows the rear tyre of the Motorcycle. The rear tyre was observed to be in serviceable condition with remaining tread depth of approximately 4mm. The tyre was also observed to be sufficiently inflated for vehicular operation.



Photo 8 shows the front tyre of the Motorcycle. The pattern of the tread was clearly visible. There was no tear, burst mark(s) and/or punctured hole(s) on the sidewalls as well as across the tread of the front tyre.

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. However, there was sign(s) or indication(s) of fluid leak observed around the engine area of the Motorcycle. A dark fluid stain was seen on the underside of the Motorcycle engine & also around the topside of the engine. The leakage was likely due to the accident's collision impact.
10. The gear chain of the motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. Free play tension test was also conducted & found adequately acceptable. See photo 9 – 13 below.



Photo 9 shows sign(s) or indication(s) of fluid leak observed around the underside engine area of the Motorcycle.

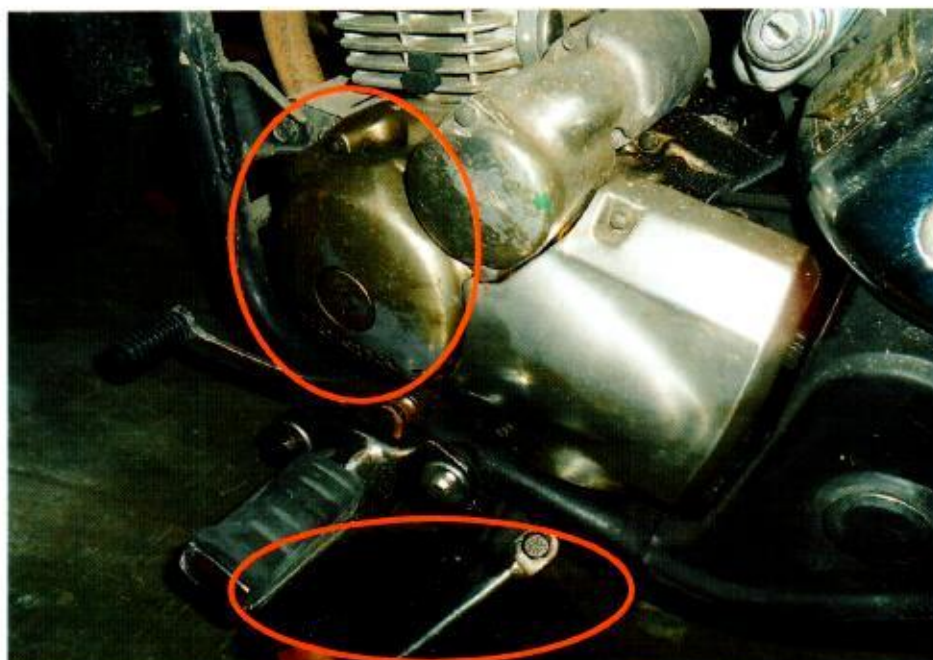


Photo 10 shows the engine fluid was sufficient, no sign(s) or indication(s) of fluid leakage stain observed around the underside of the engine area of the Motorcycle.



Photo 11 shows the gear chain of the motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes.

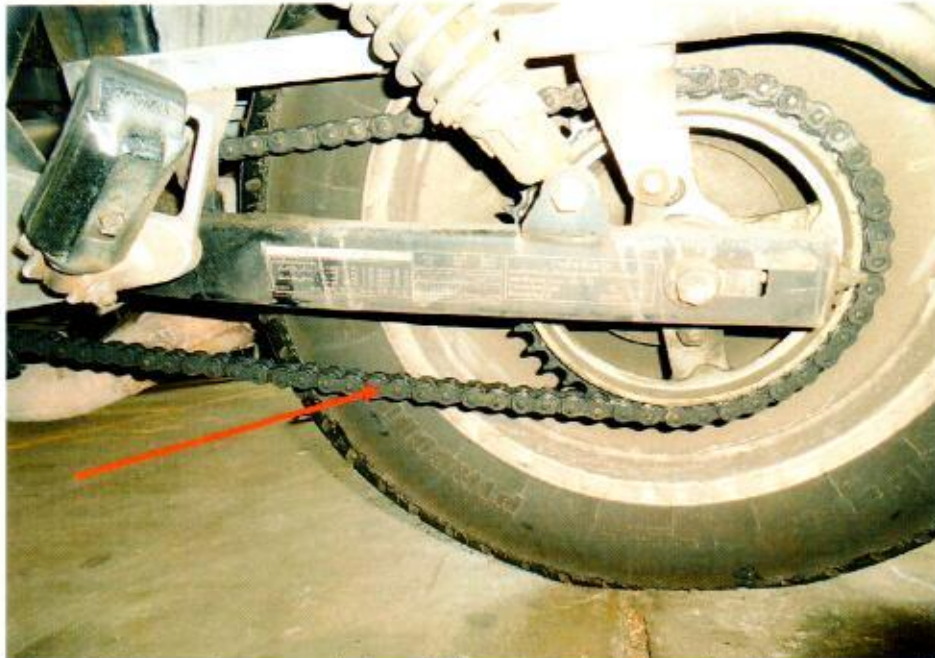


Photo 12 shows the general view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.



Photo 13 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. Free play tension was also observed & found adequately acceptable.

Steering System & Braking System

11. Our checks on the various steering components of the Motorcycle had revealed that its steering system was in not serviceable condition. Its handle bar was found to be severely bent likely due to the accident's impact collision.
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 pulling 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. Static brake tests conducted only on the Motorcycle rear brake had appeared to indicate that it was in serviceable condition. As for the front brake, it's hand brake lever was found to have been broken due to the accident's impact collision. However, the Motorcycle's braking system like the brake discs, brake callipers, brake pad, brake foot pedal and brake hoses revealed all to be intact and without damage. There was some resistance felt (spongy like feel) upon stepping on the rear brake pedal. This would indicate that there was no leakage of pressure/vacuum in the rear brake system. Our checks on the brake fluid had also indicated that the brake fluid was of sufficient level for operational purposes, and without contamination.
14. For this case, we were unable to carry out operational test of the Motorcycle's braking system. This was due to the damage steering system as a result of the accident's collision impact.

In general, our observations gathered during the static brake test which indicated that only the rear brake of the Motorcycle was in serviceable condition. See photo 14 - 20 below.

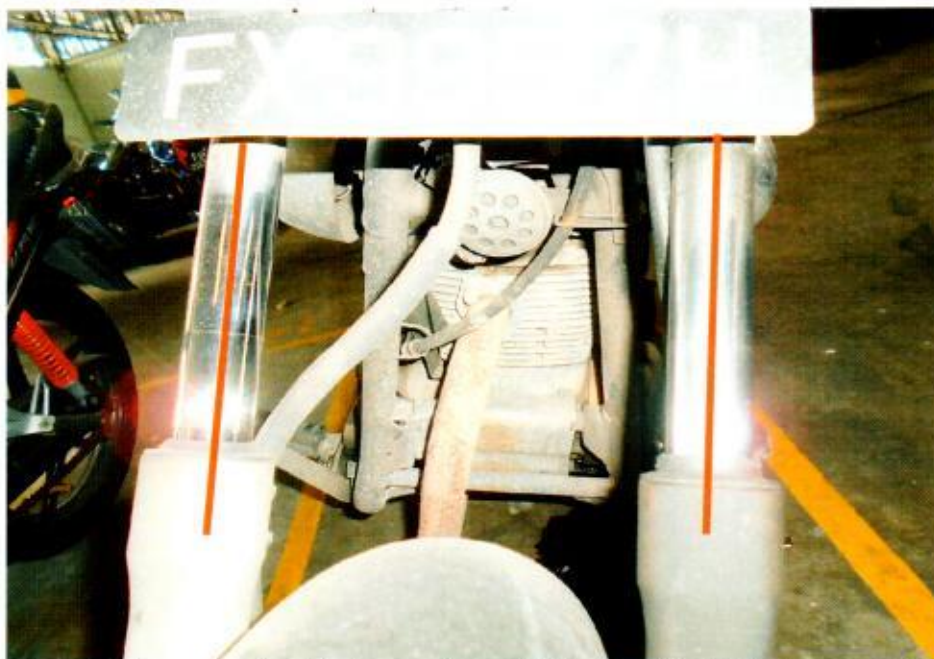


Photo 14 shows the front fork was observed to be unaffected by the accident's impact. It was observed to be in still in serviceable condition.

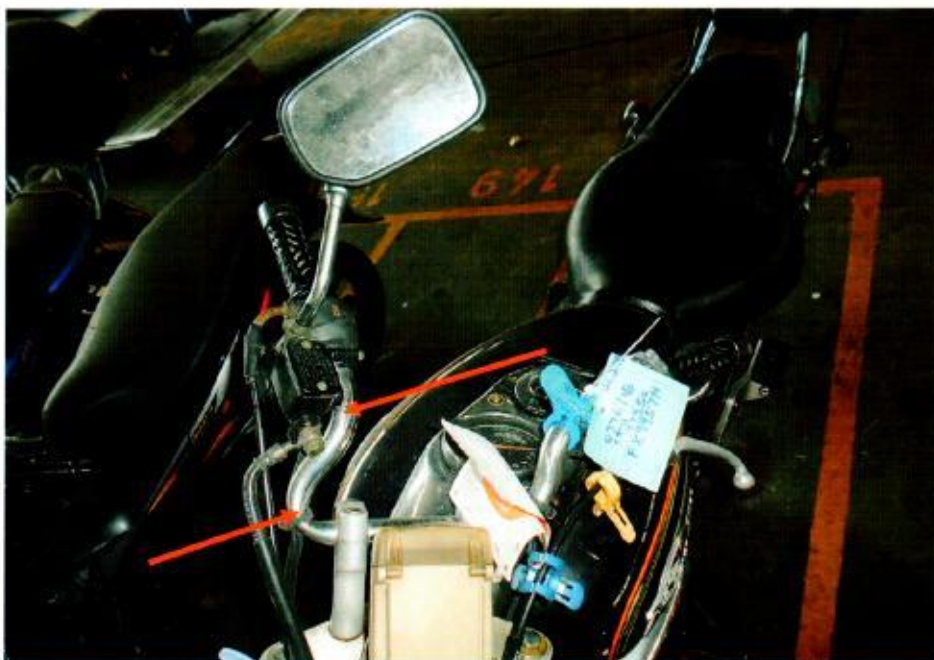


Photo 15 shows the steering system was observed to be damaged likely due to the accident's impact.

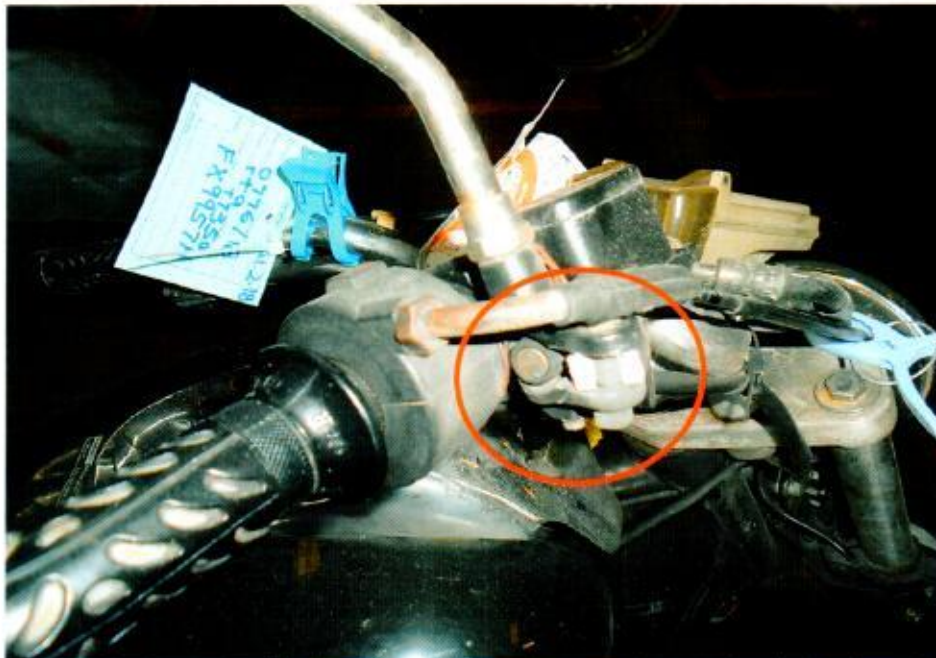


Photo 16 shows the right hand brake lever that was observed to be broken due to the accident.

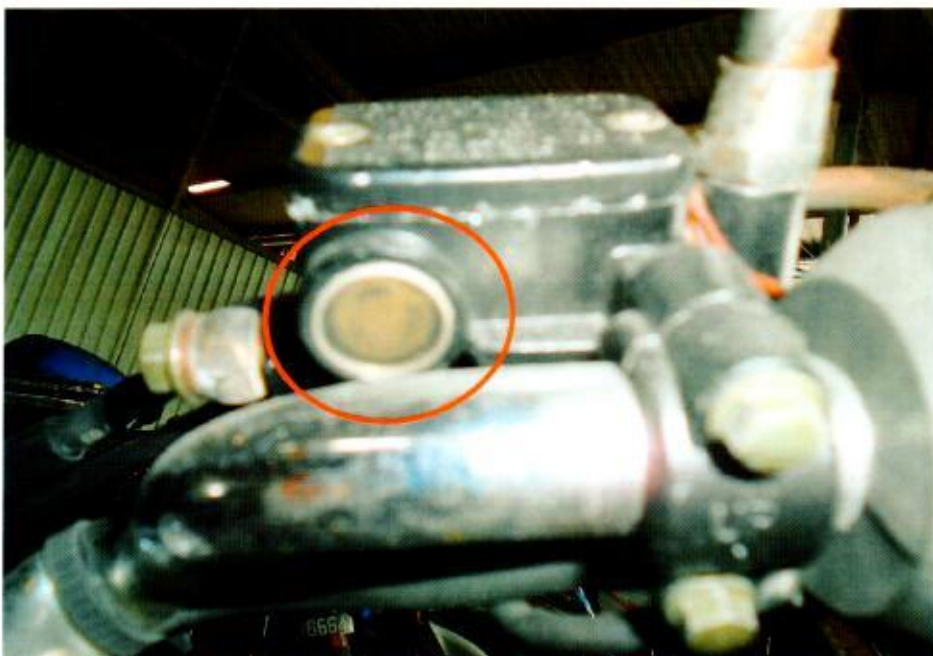


Photo 17 shows the brake fluid reservoir for front brake observed to be sufficient at time of our inspection.

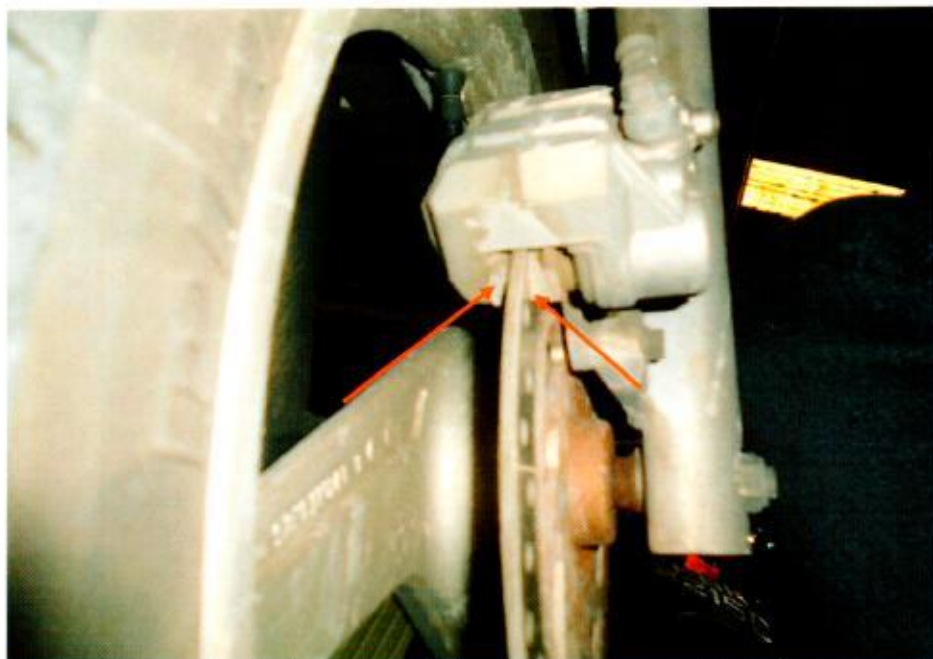


Photo 18 shows the brake pad for the front brake, observed to be in serviceable condition at time of our inspection. The frictional material found to be sufficient for operational purposes.

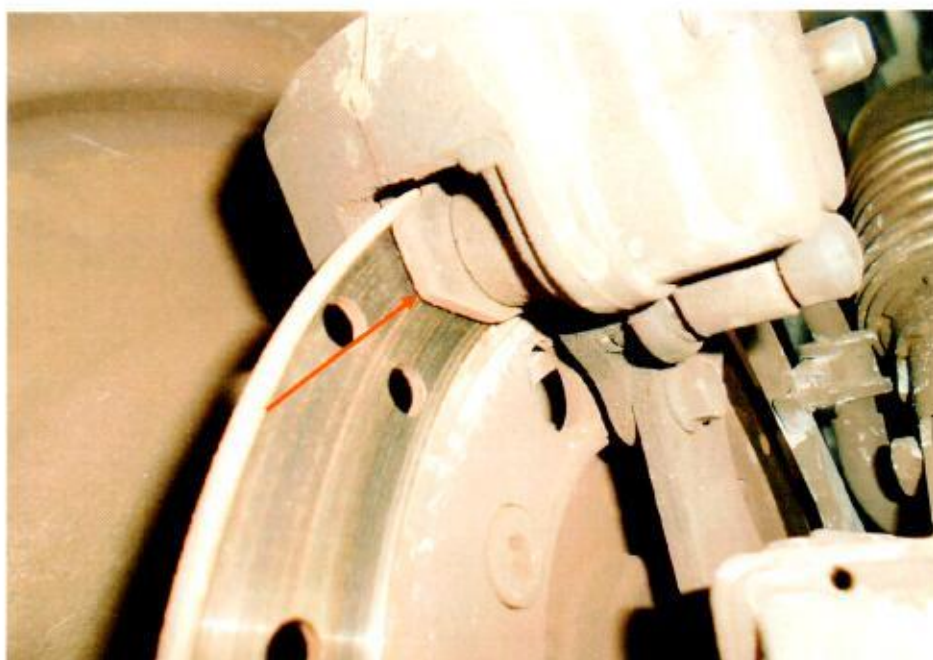


Photo 19 shows the brake pad for the rear brake observed to be in serviceable condition at time of our inspection. The frictional material found to be sufficient for operational purposes.



Photo 20 shows testing of the braking of the rear brake in progress. There was some resistance felt (spongy like feel) upon stepping on the brake pedal.

Conclusion

15. Basing on our physical inspection of the Motorcycle, it appears that the steering system was not in serviceable condition. Its handle bar was found to be severely bent inwards likely due to the accident's impact collision.
16. The front braking systems of the Motorcycle could not be tested due to a broken hand brake lever as a result of the accident. However, further observation reveal that the front brake components such as brake cables, brake calliper brake pad amongst others were in serviceable condition. As for the rear brake, it was observed to be in serviceable condition as per our static brake test.
17. We did not find any evidence(s) to suggest that there was possible mechanical failure to the Motorcycle that may have caused and/or contributed to the accident.

18. The tyres of the Motorcycle were 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 tyre. It was sufficiently inflated for vehicular operation with remaining tread depth of approximately 3 & 4mm.
19. Our findings were based solely on a static and visual inspection of the Motorcycle. No operational test(s) could be carried out to the Motorcycle due to the damage of its steering system (as a result of the accident), which had rendered the Motorcycle immobility.



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