LKK Auto Consultants Pte Ltd
Company Registration No. 199607198R
51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108

Your Ref: TP/IP/27581/2022
Our Ref : CI/TPD22011566/N

20 January 20223

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

INSPECTION REPORT OF MOTORCYCLE FBQ 1383A

1. We refer to your request dated 31 October 2022 to conduct a physical inspection of a motorcycle bearing registration number FBQ 1383A (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 11 October 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 19 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 front cowling, front mudguard, front brake lever, right handlebar end, left side mirror, side cowlings, bottom cowlings, right rear side cover, right pillion foot peg, top box rack and exhaust muffler, amongst others as a result of the accident. See photos 1 – 15 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. We were unable to record the mileage of the Motorcycle due to unavailability of the ignition key.

Photo 2 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 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 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 front cowling, front mudguard, front brake lever, right handlebar end, left side mirror, side cowlings, bottom cowlings, right rear side cover, right pillion foot peg, top box rack and exhaust muffler, amongst others as a result of the accident.

Photo 5 shows the grazed front cowling of the Motorcycle as a result of the accident (circled).

Photo 6 shows a closer view of the grazed front mudguard which was amongst the body parts at the front body of the Motorcycle that had sustained damage as a result of the accident (arrowed).

Photo 7 shows a closer view of the cracked right rear side cover of the Motorcycle as a result of the accident (arrowed).

Photo 8 shows a closer view of the right handlebar end and front brake lever of the Motorcycle which were observed to be damaged due to the accident (arrowed).

Photo 9 shows the grazed left cowling of the Motorcycle as a result of the accident (arrowed).

Photo 10 shows the grazed right cowling of the Motorcycle as a result of the accident (arrowed).

Photo 11 shows a close-up view of the cracked left bottom cowling of the Motorcycle as a result of the accident.

Photo 12 shows a close-up view of the cracked right bottom cowling of the Motorcycle as a result of the accident.

Photo 13 shows a general view of the grazed right pillion foot peg of the Motorcycle as a result of the accident (arrowed).

Photo 14 shows the grazed top box rack of the Motorcycle as a result of the accident (arrowed).

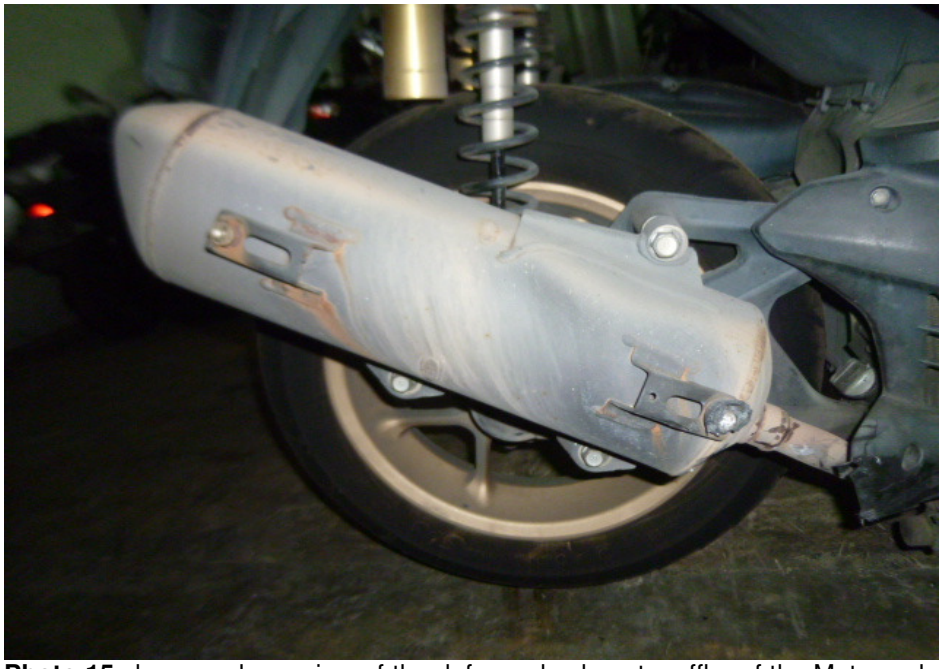
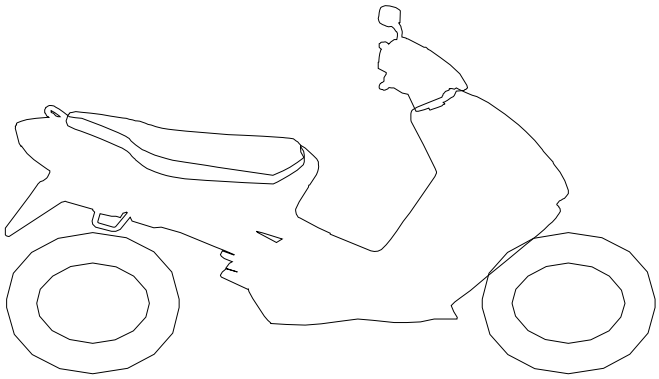


Photo 15 shows a closer view of the deformed exhaust muffler of the Motorcycle as a result of the accident.

Tyres and Wheel Rims

6. 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:-



Maxxis 140/70 - 14 (2mm) Maxxis 110/80 - 14 (3mm)

7. 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 16 & 17 below.

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 3mm. 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. The tyre was also observed to be sufficiently inflated for vehicular operation.

Photo 17 shows the condition of the Motorcycle's rear tyre. The rear 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 rear tyre.

Engine & Drive Train

8. Upon examination of the Motorcycle's engine area, we had observed fluid leak around the left engine area of the Motorcycle.

9. The drive train of the Motorcycle was found to be intact without any misalignment. However the drive train cover had sustained damages of grazing nature as a result of the accident. There was no visible tear or cut observed on the connecting hoses and cables. The shock absorbers of the Motorcycle were also found to be intact without any misalignment. See photos 18 - 22 below.

Photo 18 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.

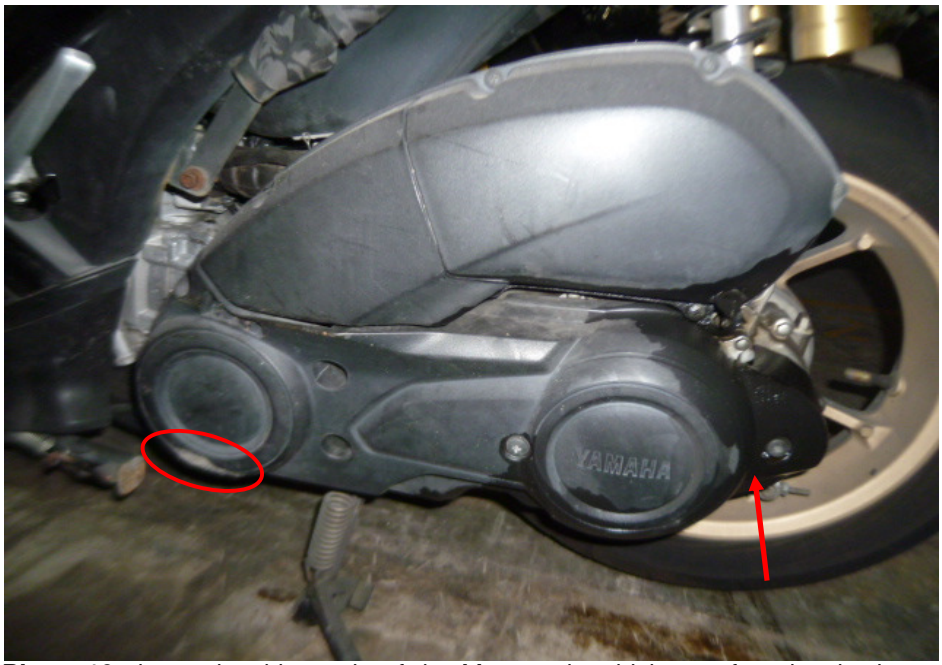


Photo 19 shows the drive train of the Motorcycle which was found to be intact without any misalignment. However the drive train cover had sustained damages of grazing nature as a result of the accident (circled). Upon closer examination of the Motorcycle's left engine area, we had observed fluid leak around the left engine area of the Motorcycle (arrowed).

Photo 20 shows the fluid leak observed around the left engine area of the Motorcycle (arrowed).

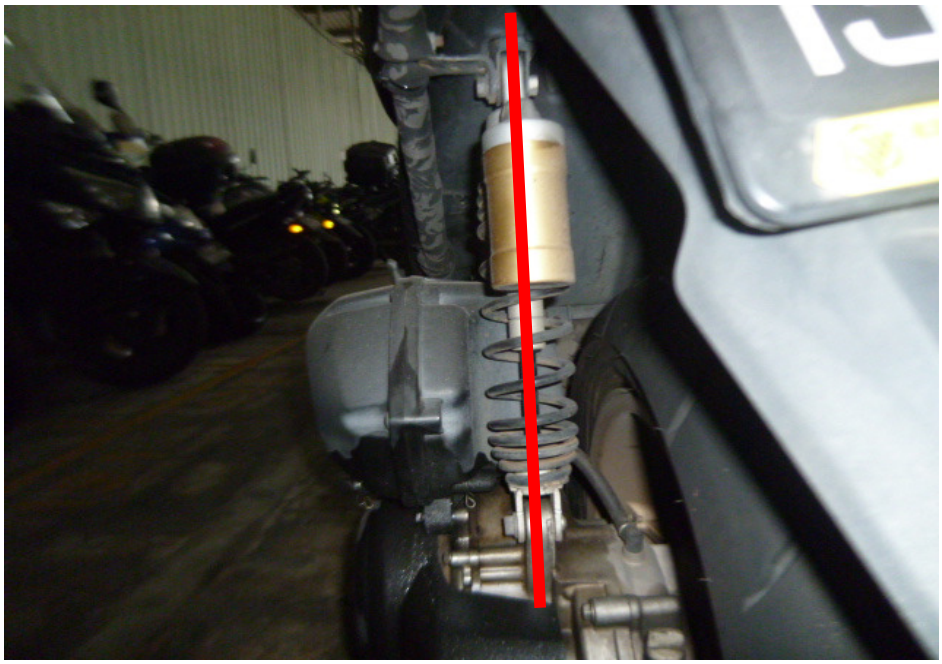


Photo 21 shows the left shock absorber of the Motorcycle which was found to be intact without any misalignment.

Photo 22 shows the right shock absorber of the Motorcycle which was found to be intact without any misalignment.

Steering System & Braking System

10. Our checks on the various steering components of the Motorcycle had revealed that its steering system was in serviceable condition. Its front forks and fork brackets were both found to be intact and undamaged. Turning the handle bar towards the left and right also did not produce any abnormal free play and/or resistance.

11. The brake system of the Motorcycle was of a semi-hydraulic type, where hydraulic (brake fluid) pressure controls the brake for the front wheel while the brake for the rear wheel is controlled by mechanical means (cables and springs). Our visual examination of the various components in the brake system, like the brake disc, brake caliper, drum and left hand brake lever, revealed all to be intact and without damage. There was also no leakage of brake fluid observed along the front brake hose. This was from the respective front brake fluid reservoir to the front brake caliper of the Motorcycle. We were unable remove the front brake reservoir cover to examine whether the front brake fluid was without contamination due to a worn out screw. The front brake fluid was observed to be of sufficient level for operational purposes. There was also no visible tear or cut observed on the connecting hoses and cables. However, the right hand brake lever was observed to be broken as a result of the accident.

12. We were unable to conduct static brake tests on the front braking system of the Motorcycle due to the broken right hand lever. Hence we were unable to indicate if there was any leakage of pressure/vacuum in the front brake system.

13. We subsequently carried out an operational test of the Motorcycle's braking system. This was done by manually pushing the Motorcycle forward and backward, simulating the Motorcycle in motion, and thereafter engaging the front brake and rear brake of the Motorcycle. At the end of the short operational test, we did not observe any abnormal behaviour of the Motorcycle's rear braking system. The rear wheel of the Motorcycle was able to stop rotating immediately upon depressing the left hand brake lever. However the front wheel of the Motorcycle was unable to stop rotating immediately upon depressing the right hand brake lever.

14. In general, the observations gathered during the brake test had indicated that only the rear braking system of the Motorcycle was in serviceable condition. See photos 23 – 30 below.

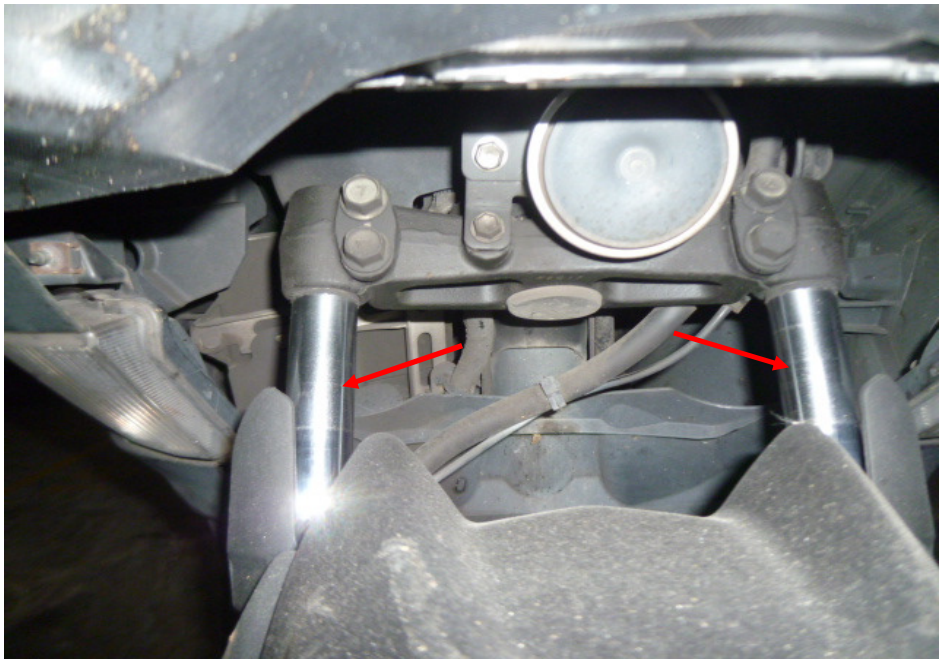


Photo 23 shows the front forks (arrowed) of the Motorcycle. The front forks and fork brackets of the Motorcycle were both found to be intact and undamaged. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. The steering system of the Motorcycle was in serviceable condition at the time of our inspection.

Photo 24 shows the front wheel of the Motorcycle turned towards its full right. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Motorcycle was in serviceable condition at the time of our inspection.

Photo 25 shows the front wheel of the Motorcycle turned towards its full left. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Motorcycle was in serviceable condition at the time of our inspection.

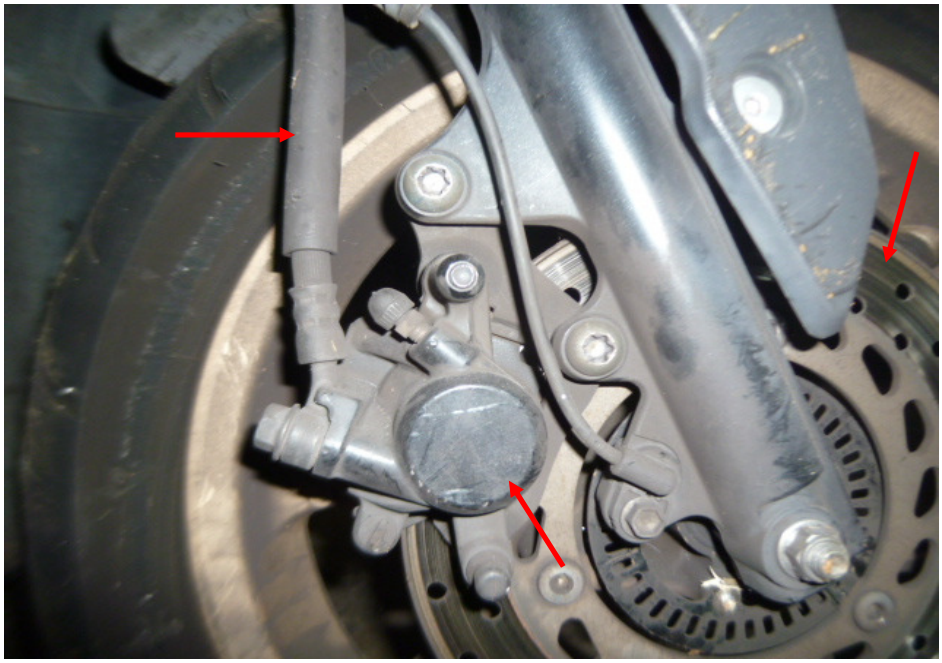


Photo 26 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

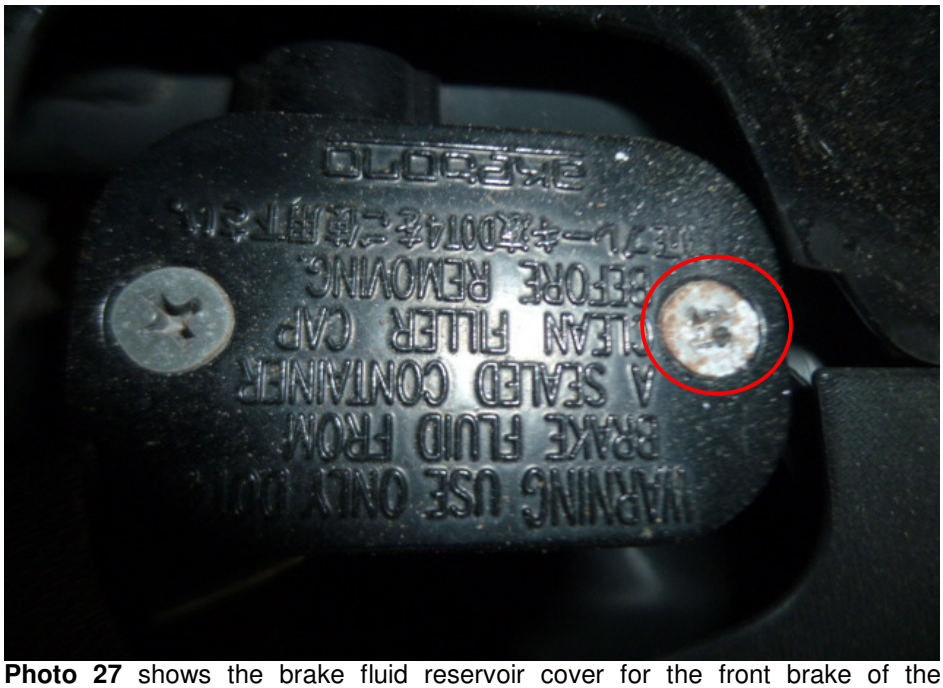


Photo 27 shows the brake fluid reservoir cover for the front brake of the Motorcycle. We were unable to examine whether the front brake fluid was without contamination due to a worn out screw (circled).

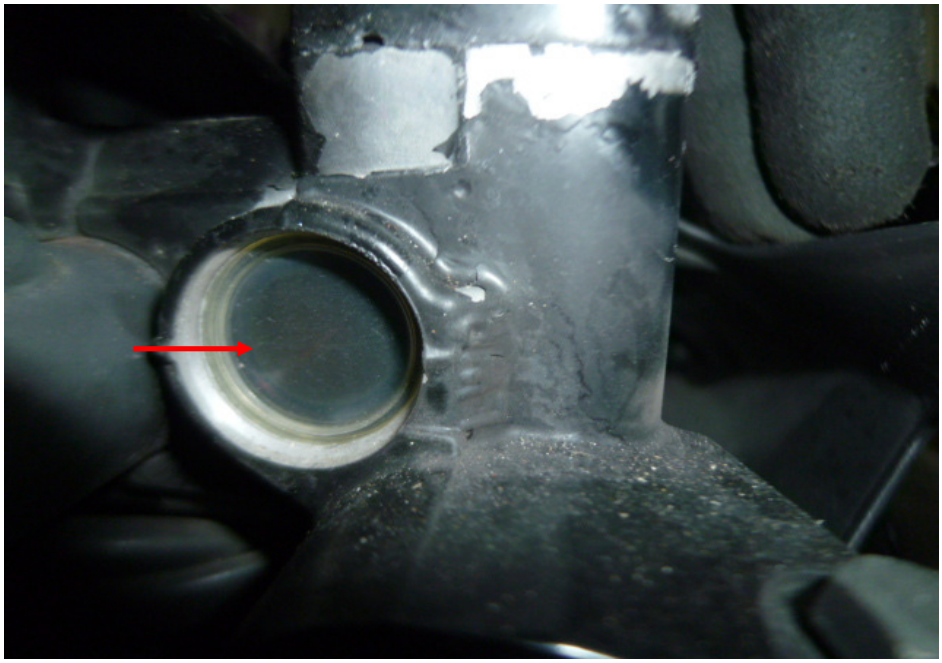


Photo 28 shows a close up view of the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be of sufficient level for operational purposes (arrowed).

Photo 29 shows the broken right hand brake lever as a result of the accident (arrowed). We were unable to conduct static brake tests on the front braking system of the Motorcycle due to the broken right hand lever. Hence we were unable to indicate if there was any leakage of pressure/vacuum in the front brake system.

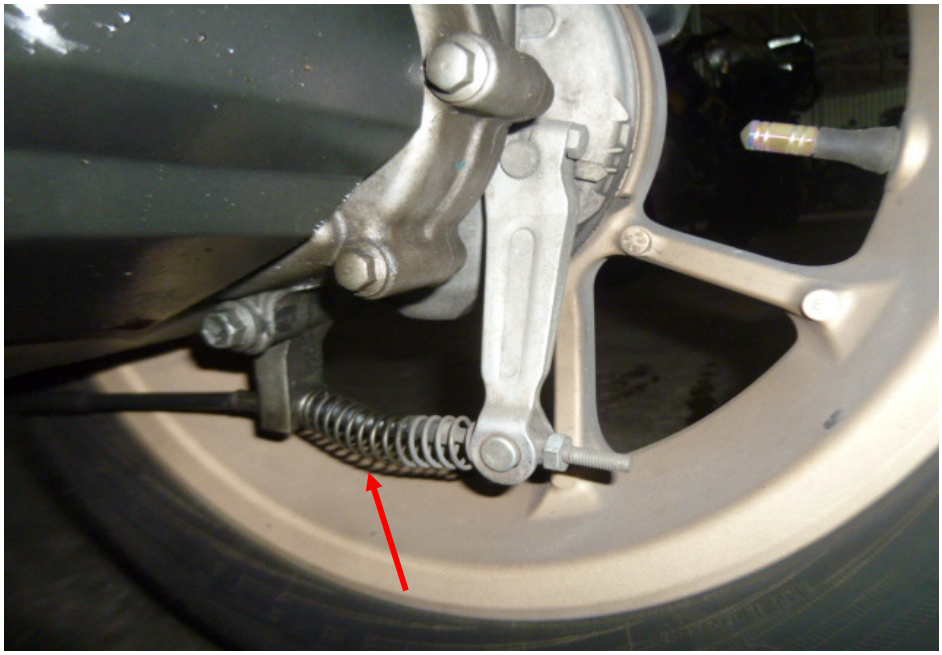
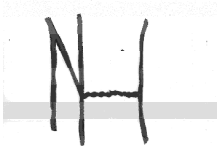


Photo 30 shows the rear wheel of the Motorcycle. The type of brake system for the rear wheel was of a mechanical type, controlled by the brake foot pedal of the Motorcycle. Our checks of the cable (arrowed), spring and drum which are all part of the components in the rear brake system of the Motorcycle reveal all to be intact and without damage.

Conclusion

15. Basing on our physical inspection of the Motorcycle, it appears that the steering system and rear braking system of the Motorcycle were all in serviceable condition. However the front braking system of the Motorcycle was damaged as a result of the accident.

16. 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 tyres. It was sufficiently inflated for vehicular operation with remaining tread depth of approximately 3mm and 2mm.



Muhd Nazril
Senior Technical Investigator

Ang Bryan Tani
AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA
Senior Technical Investigator
Technical Investigation & Reconstructionist (SAE-A)