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Your Ref: TP/IP/48921/2018
Our Ref :CI/TPD18022474/Z

16th January 2019

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBG 3474K

1. We refer to your request dated 06th December 2018 to conduct a physical inspection of a Motorcycle bearing registration number FBG 3474K (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 29th August 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 02nd January 2019 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 at the time of our inspection was not recorded due to the extensive damages sustained which affect the ignition system of the Motorcycle as a result of the accident.

5. The Motorcycle was observed to have sustained severe damages at the frontal portion, rear portion & along both its left side and right side. The body parts that were found to have been damaged includes its missing front head lamp, missing ERP unit & bracket, broken handle bar, left & right wing mirrors, chassis structure, seat assembly, fuel tank and rear portion amongst others. Its front forks assemblies were also observed to be buckled inwards as a result of the accident.

6. The damages were consistent with the accidents case fact that on 29th August 2018, sometime before 1805hrs, a motorcycle (FBG 3474K) was travelling along Pasir Panjang Road towards West Coast Highway while the Motor Bus (PC 3156J) was travelling on the opposite direction towards Telok Blangah Road. The Motor Bus had made a right turn at the junction of Harbour Drive, resulting in a collision (head to side) with the motorcyclist who was travelling straight. See photos 1 to 8 below.

Photo 1 shows the general view of the frontal portion of the Motorcycle at time of our examination. It was observed to sustained severe damages due to the accident's impact collision.

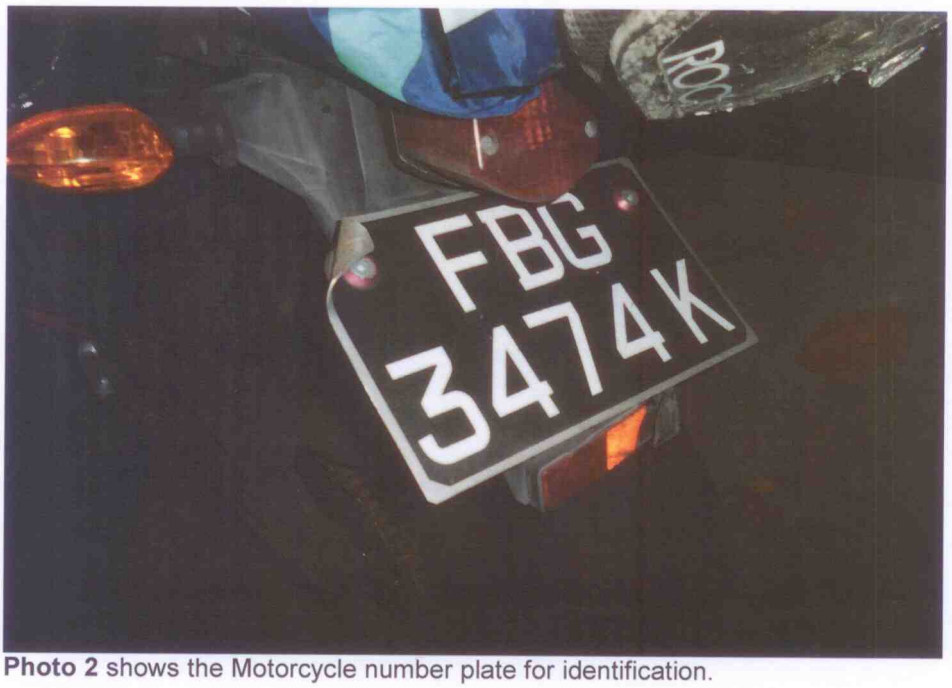


Photo 2 shows the Motorcycle number plate for identification.

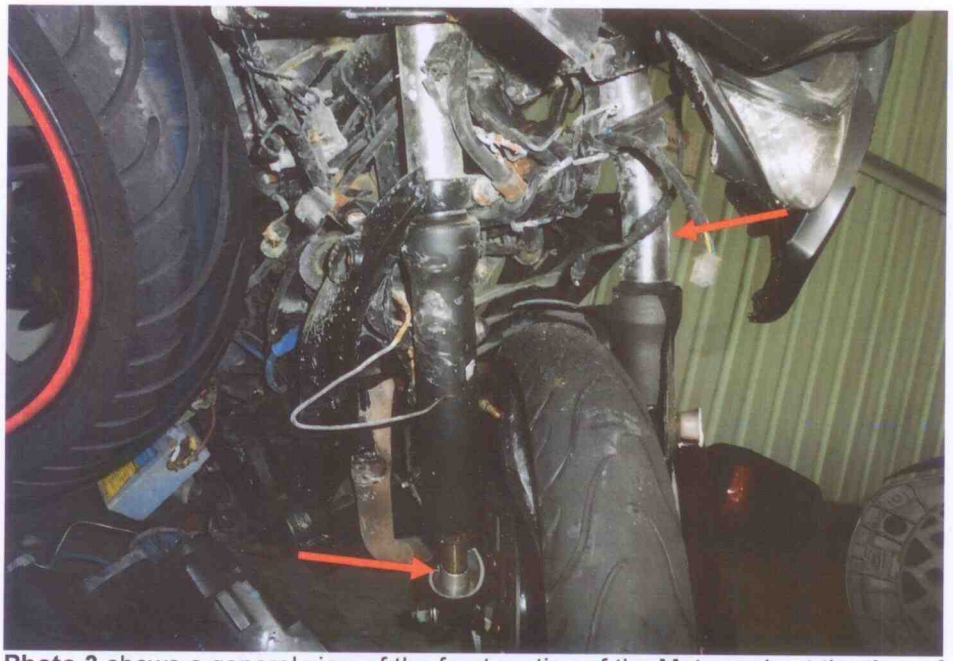


Photo 3 shows a general view of the front portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained with relatively extensive impact due to the accident collision. Amongst the body parts damaged was its front fork (arrowed), which was observed to be broken and buckled inwards.

Photo 4 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 at the frontal portion, rear portion, along both its left side and right side.

Photo 5 shows a general view of the right portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively extensive impact due to the accident collision.

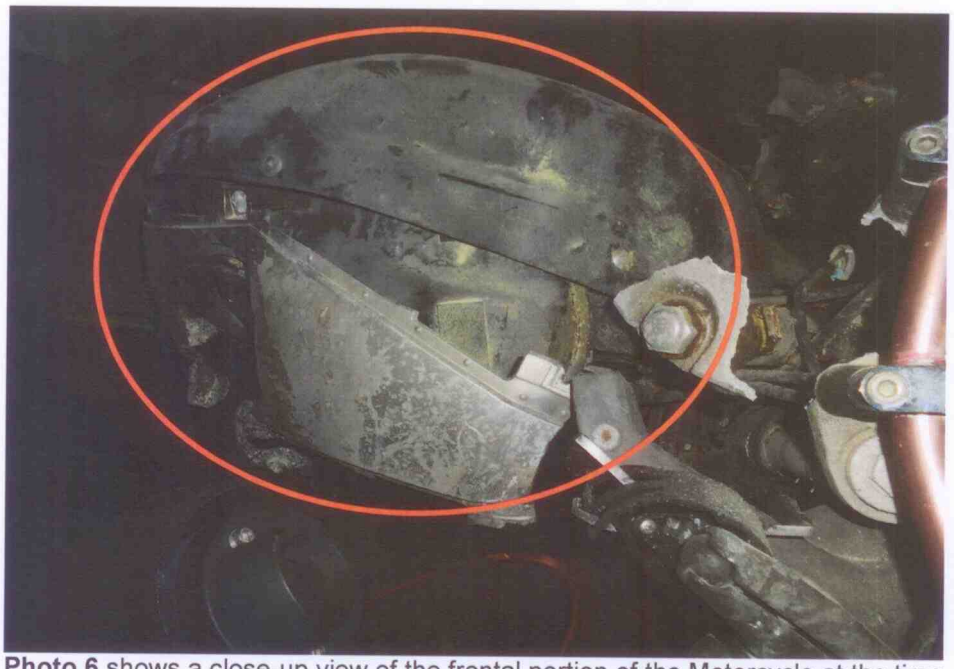


Photo 6 shows a close-up view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively extensive impact including damages to the fuel tank due to the accident collision.

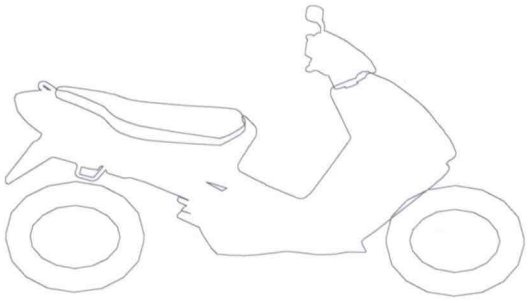
Photo 7 shows a semi close-up view of the front portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively extensive impact due to the accident collision which includes a broken handle bar.

Photo 8 shows a semi close-up view of the exhaust pipe of the Motorcycle at the time of our inspection. It was observed to have sustained relatively extensive impact due to the accident collision which includes crushed exhaust pipe.

Tyres and Wheel Rims

7. The condition of the Motorcycle's rear tyre was observed to be in serviceable condition. The tread pattern of the rear tyre 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 rear tyre.

8. As for the front tyre it was found to be deflated with broken front rim likely due to the accident impact. However, the tread pattern of the front tyre 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 front tyre. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-



Pirelli Angel CT 150/60 – 17(5mm)

Michelin 100/80 - 17 (4mm)

9. The rear tyre was observed to be wrapped around alloy wheel rims that were found to be without any significant damage. It was found to be in serviceable condition with adequately inflated for operational purpose.

10. As for the front wheel rim, it was noted to have sustained with damages (broken) at time of our inspection. The front tyre was found to be deflated due to the broken wheel rim as a result of the accident's collision. See photo 9 – 12 below

Photo 9 shows the rear tyre of the Motorcycle at the time of our inspection. The rear tyre was observed to be in serviceable condition with remaining tread depth of approximately 5mm. The tyre was also observed to be sufficiently inflated for vehicular operation. There was no significant damage observed on the rear wheel rim & tyre.

Photo 10 shows the front tyre of the Motorcycle at the time of our inspection. 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 with remaining tread depth of approximately 5mm. It was also observed to be deflated as a result of the accident.

Photo 11 shows the cracked wheel rim & deflated front tyre of the Motorcycle at the time of our inspection.

Photo 12 shows the cracked wheel rim on front tyre of the Motorcycle at the time of our inspection.

Engine & Drive Train

11. Upon examination of the engine area of the Motorcycle, we had observed that the various engine related parts and components were intact with no visible damage. The engine underside was however observed to be covered with reddish fluid, suggesting leakage of fluid. There was no accumulation of dust and/or dirt particles on the engine housing where the fluid stains had formed. This would indicate that the fluid leakage was a fresh leak and likely to be a result of the accident.

12. The gear chain of the Motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. See photo 13 – 16 below.

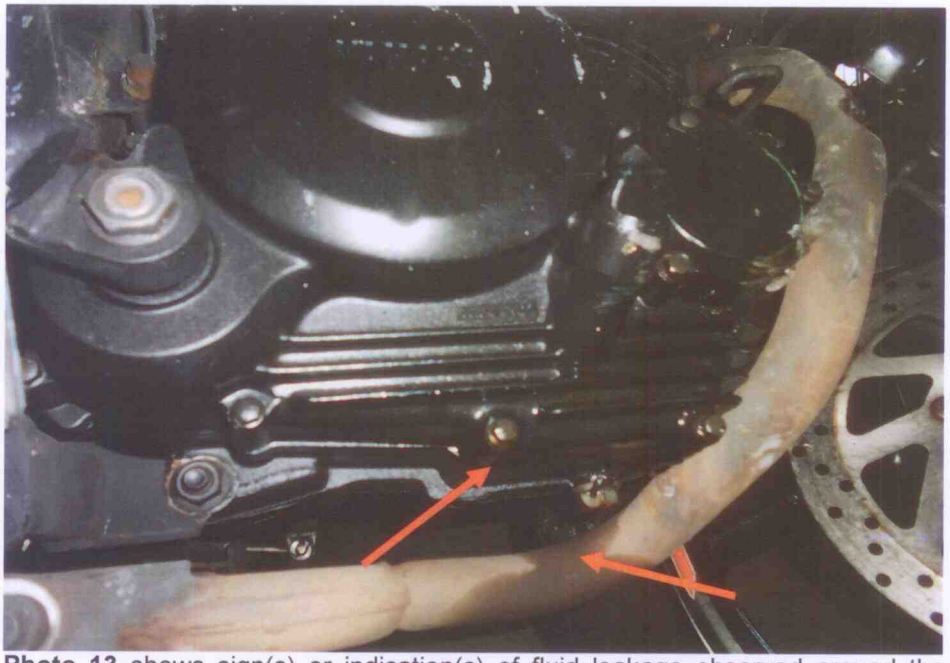


Photo 13 shows sign(s) or indication(s) of fluid leakage observed around the engine's underside area of the Motorcycle.

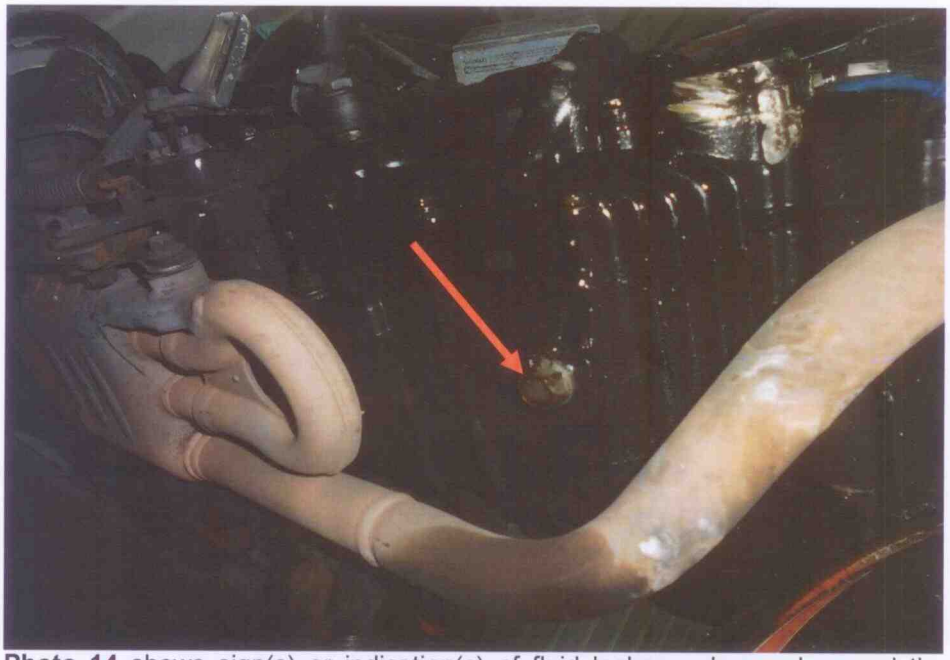


Photo 14 shows sign(s) or indication(s) of fluid leakage observed around the engine's area of the Motorcycle.

Photo 15 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.

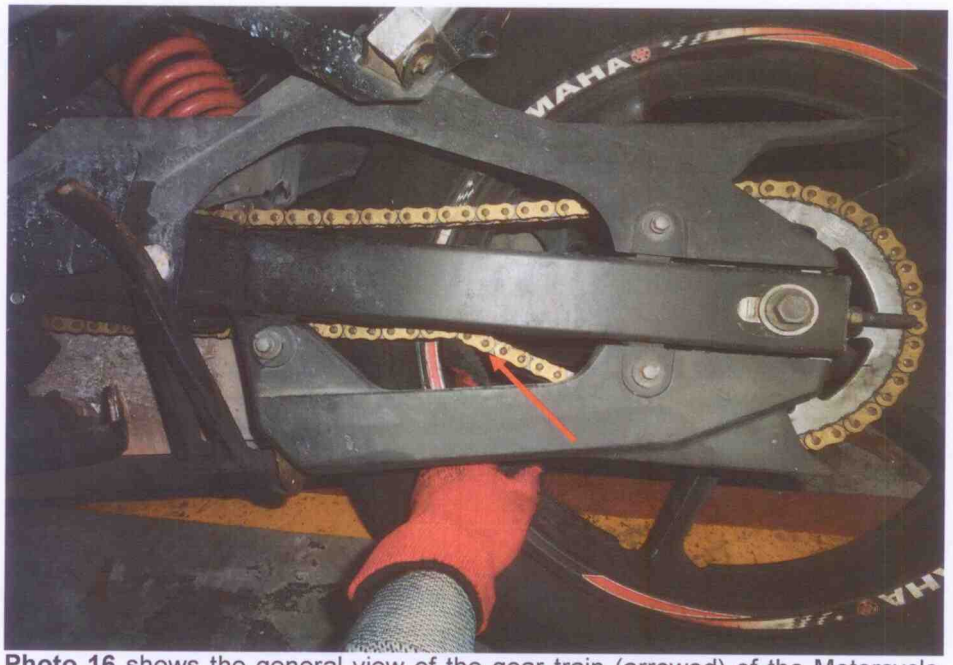


Photo 16 shows the general view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

Steering System & Braking System

13. For this case, we were not able to conduct any test(s) on the steering system of the Motorcycle due to the damages on its front fork & handle bar. The front fork was found to be buckled inwards & broken handle bar as a result of the accident, hence causing the whole steering system to be in a state of immobility.

14. 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, hand brake lever, rear drum brake and brake foot pedal, revealed all to be intact. However, one of the braking components (front brake calliper) was noted to be missing from the original installation at the material time of our inspection.

15. Static brake tests for the front brake was unable to be conducted on the Motorcycle braking system due to missing front brake calliper & brake fluid leakage (broken brake hose) at the material time of our inspection.

16. As for the rear, a static brake test that was conducted on the Motorcycle had appeared 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 rear brake foot paddle. This would indicate that there was no damage sustained to the rear brake drum & other supporting mechanical components.

17. 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 damages on its front forks, handle bar and missing front brake calliper which had rendered the Motorcycle immobility for the operational tests. See photo 17 to 22 below.

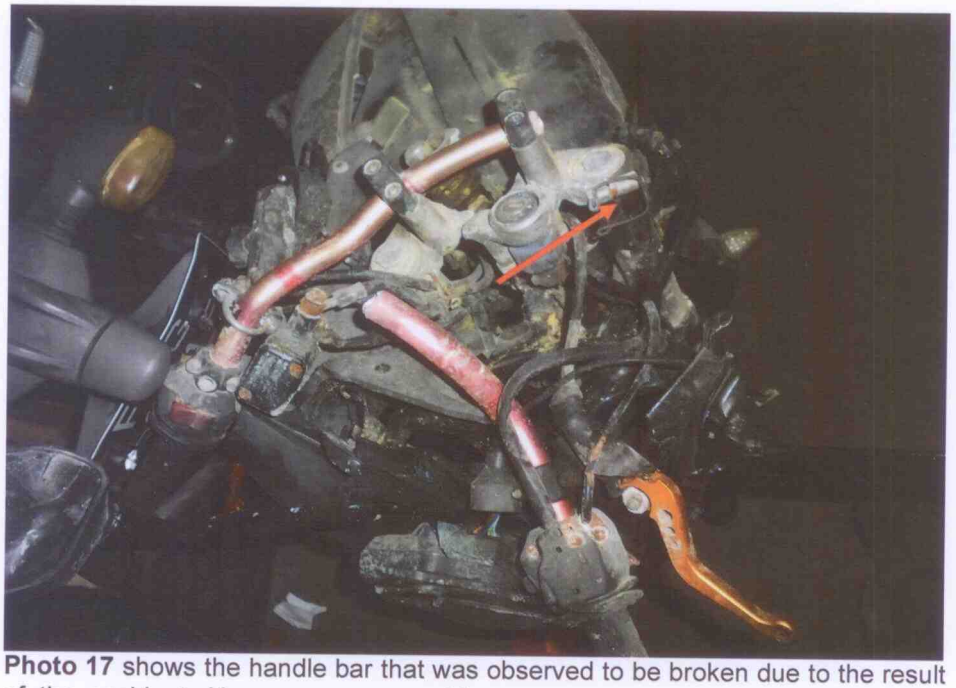


Photo 17 shows the handle bar that was observed to be broken due to the result of the accident. Hence, we are unable to conduct any tests on the steering system & braking system of the Motorcycle.

Photo 18 shows the front fork (arrowed) that was observed to be buckled inwards as a result of the accident. Hence, we are unable to conduct any tests on the steering system of the Motorcycle.

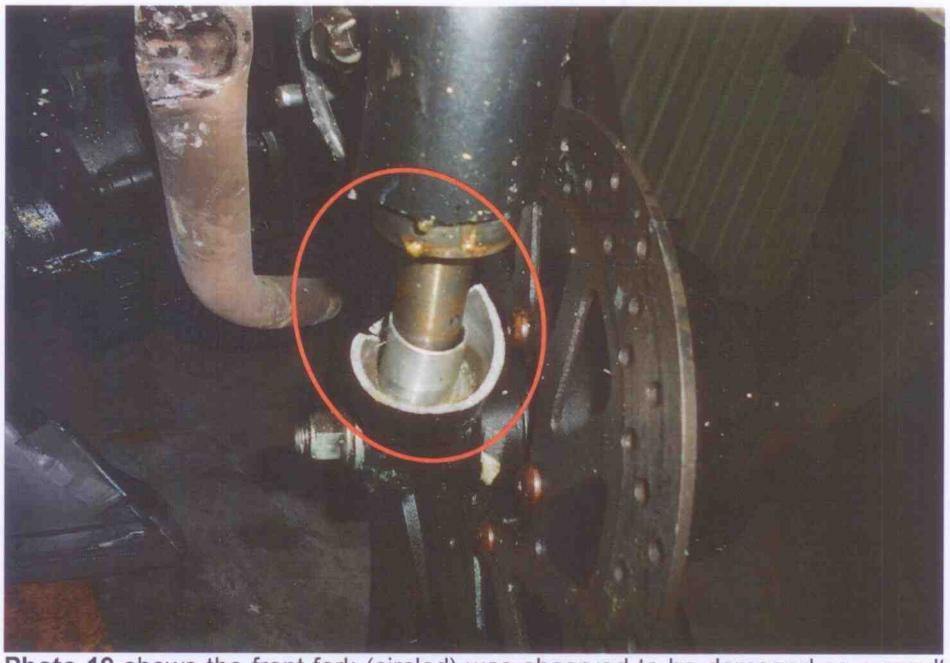


Photo 19 shows the front fork (circled) was observed to be damaged as a result of the accident. Hence, we are unable to conduct any tests on the steering system of the Motorcycle.

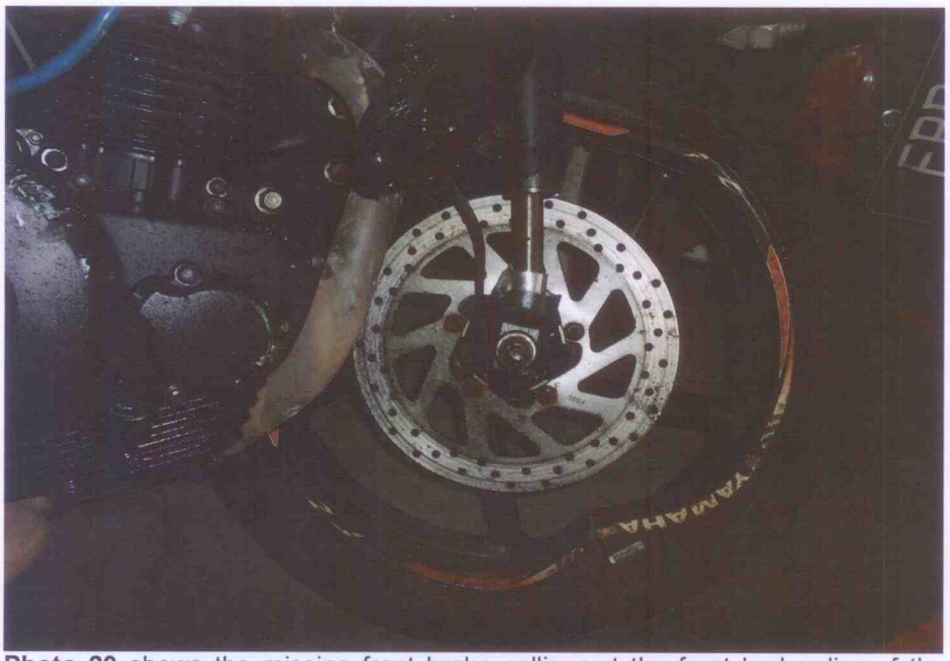


Photo 20 shows the missing front brake calliper at the front brake disc of the Motorcycle due to the accident's impact collision. Hence, we are unable to conduct any tests on the braking system of the Motorcycle.

Photo 21 shows the front brake fluid reservoir of the Motorcycle. The brake fluid was observed to be in an insufficient level due to the damages sustained as a result of the accident.

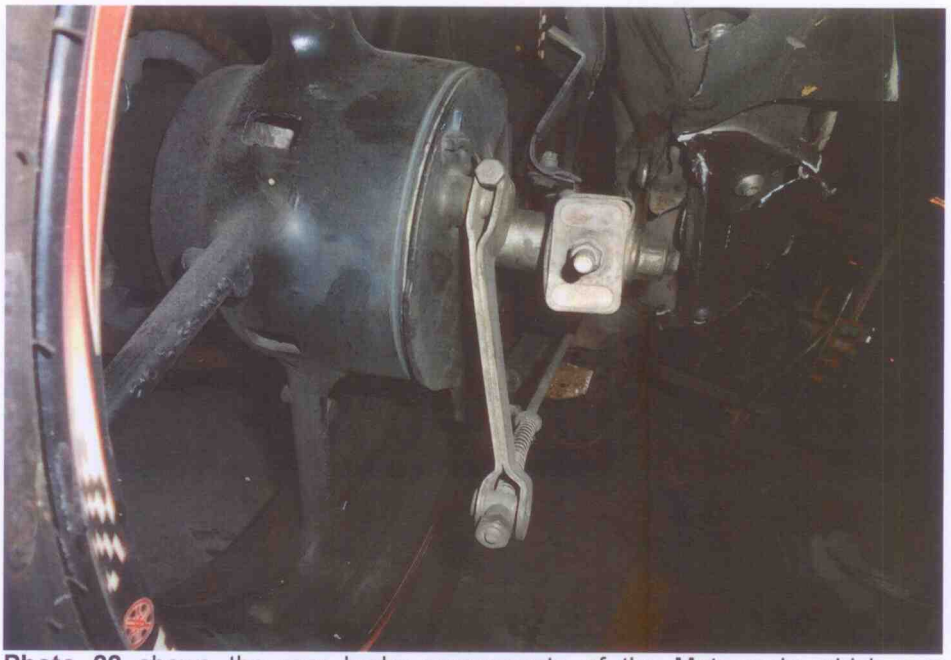


Photo 22 shows the rear brake components of the Motorcycle which was observed to be in serviceable condition. No damages was found at time of our inspection

Conclusion

18. At the time of our inspection of the Motorcycle, its steering system & braking system could not be tested likely due to the damages as a result of the accident.

19. The condition of the Motorcycle's rear tyre was observed to be in serviceable condition. The tread pattern of the rear tyre 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 rear tyre. Its tread depth was measured & found to be around approximately 5mm.

20. As for the front tyre, it was found to be deflated likely due to the broken wheel rim as a result of the accident's collision. However, the tread pattern of the front tyre was clearly visible with tread depth of 4mm. 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.

21. 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 damages on its steering system & braking system (as a result of the accident), which had rendered the Motorcycle's immobility.

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