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Your Ref: TP/IP/18129/2020
Our Ref : CI/TPD20007959/N

21 August 2020

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

**INSPECTION REPORT OF MOTORCYCLE FBM 8394T**

1. We refer to your request dated 27 April 2020 to conduct a physical inspection of a motorcycle bearing registration number FBM 8394T (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 4 April 2020.

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 21 August 2020 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 the time of our inspection was 24, 458km.

5. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its headlight assembly, front mudguard, front brake lever, right side mirror, right handlebar end, side cowlings, left rear bottom cowling, rear side covers, top box rack and exhaust muffler, amongst others as a result of the accident. See photos 1 – 13 below.


**Photo 1** shows the speedometer gauge of the Motorcycle where the mileage recorded at time of our inspection was 24, 458km.


**Photo 2** shows a general view of the front right 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 left body 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 headlight assembly, front mudguard, front brake lever, right side mirror, right handlebar end, side cowlings, left rear bottom cowling, rear side covers, top box rack and exhaust muffler, amongst others as a result of the accident.

**Photo 5** shows a closer view of the broken headlight assembly of the Motorcycle at the time of our inspection.


**Photo 6** shows a closer view of the 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 (circled).

**Photo 7** shows a closer view of the right side mirror, right handlebar end and front brake lever of the Motorcycle which were observed to be damaged due to the accident (circled).


**Photo 8** shows the damaged right side cowling of the Motorcycle. The damage sustained was mainly of grazing nature.

**Photo 9** shows a close-up view of the deformed left lower side cowling of the Motorcycle at the time of our inspection (arrowed).

**Photo 10** shows a closer view of the deformed left rear side cover of the Motorcycle as a result of the accident (arrowed).

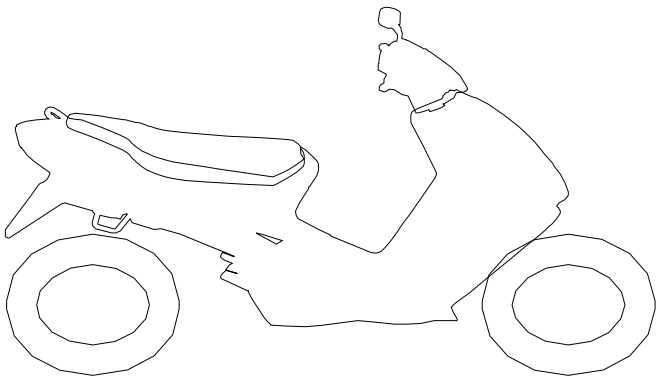
**Photo 11** shows a closer view of the right rear side cover of the Motorcycle which sustained damages of grazing nature as a result of the accident (circled).

**Photo 12** shows a closer view of the damaged exhaust muffler of the Motorcycle at the time of our inspection (circled).

**Photo 13** shows a closer view of the cracked top box rack of the Motorcycle as a result of the accident (arrowed).

## 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 130/70 - 12 (3mm) Michelin 120/70 - 12 (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 14 & 15 below.


**Photo 14** 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.

**Photo 15** 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 3mm. 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 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.

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. See photos 16 - 19 below.

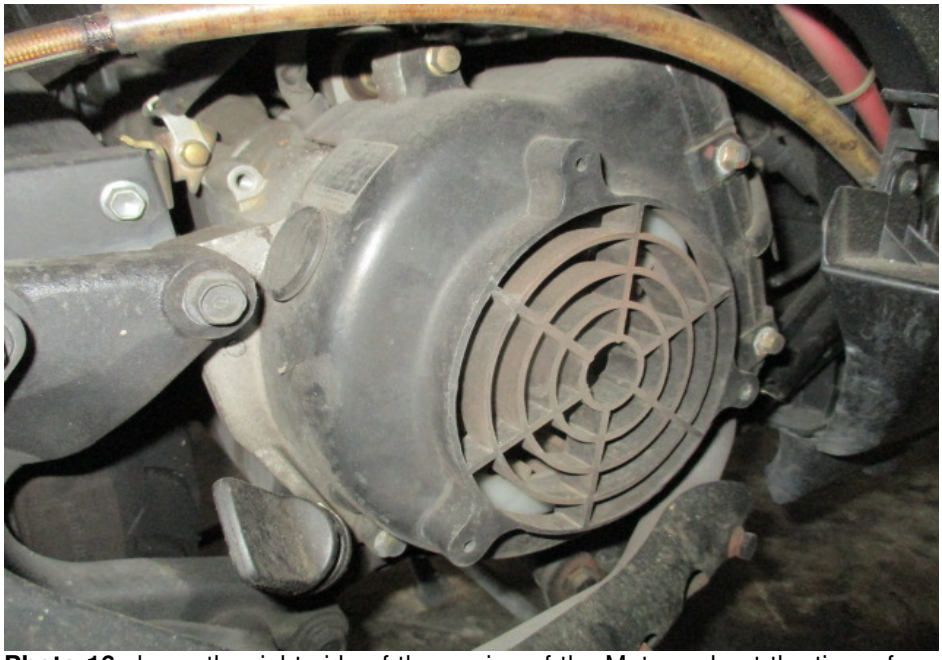


**Photo 16** shows the right side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the right engine area of the Motorcycle.

**Photo 17** 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 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.

**Photo 18** shows the left shock absorber of the Motorcycle which was found to be intact without any misalignment.

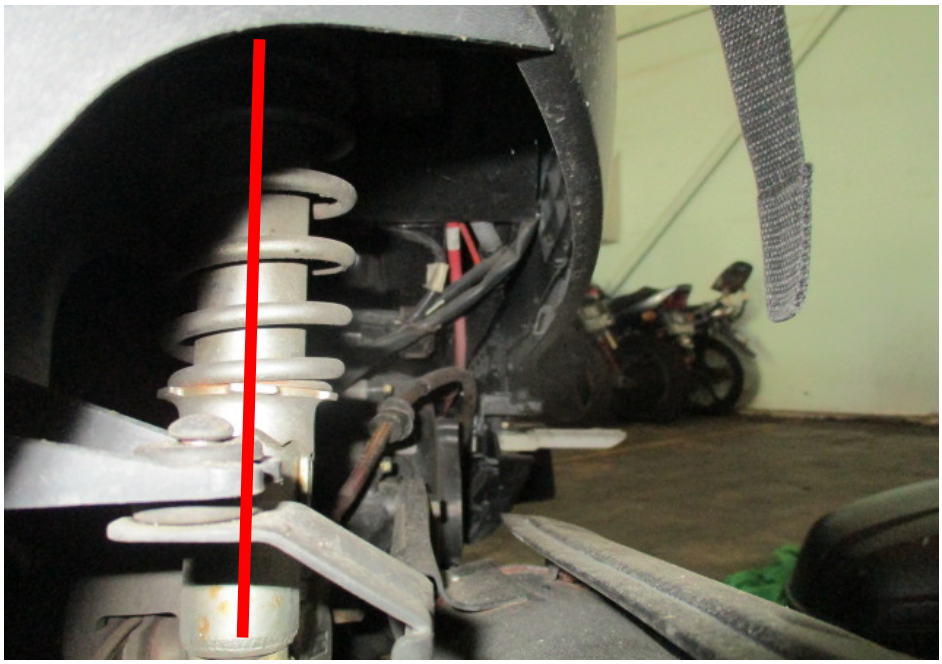


**Photo 19** shows the right shock absorber of the Motorcycle which was found to be intact without any misalignment.

**Steering System & Braking System**

10. 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 handlebar. The handlebar was observed to be bent inwards as a result of the accident. Hence we were unable to turn the handle bar towards the left or right.

11. 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 pulling the brake lever at the left side of the Motorcycle's handle bar.

12. Static brake tests conducted on the Motorcycle had appeared to indicate that the brake system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon pressing both brake levers. This would indicate that there's no leakage of pressure/vacuum in the braking system. Our checks on the brake fluid had also indicated that the brake fluid was of sufficient level for operational purposes, and without contamination.

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 braking system. The front wheel and rear wheel of the Motorcycle were able to stop rotating immediately upon depressing both brake levers.

14. In general, the observations gathered during the brake test had indicated that the braking system of the Motorcycle was in serviceable condition. See photos 20 – 27 below.

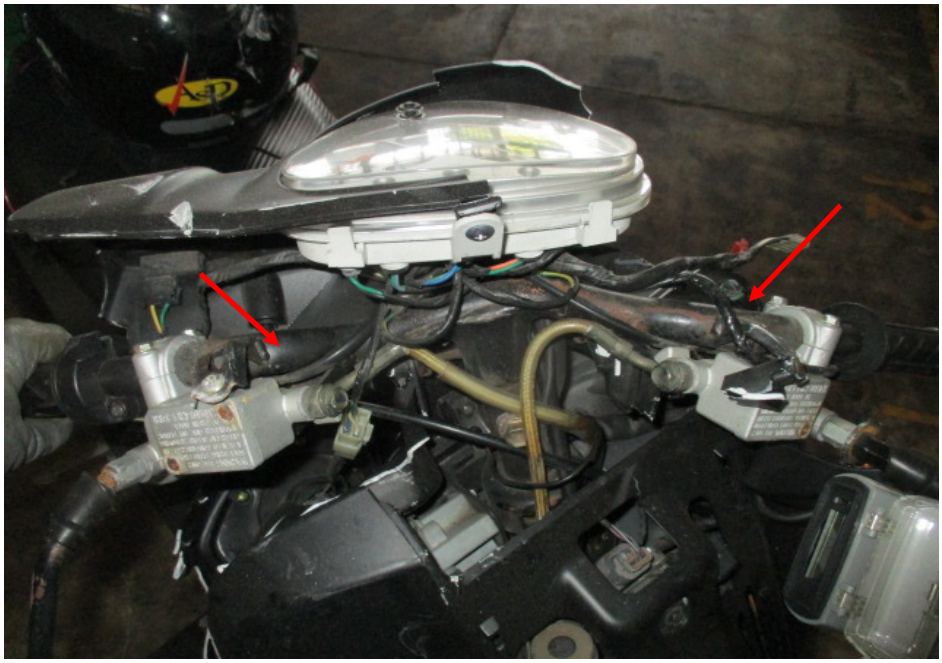


**Photo 20** shows the handlebar of the Motorcycle. The handlebar was observed to be bent inwards as a result of the accident (arrowed). Hence we were unable to turn the handle bar towards the left or right.

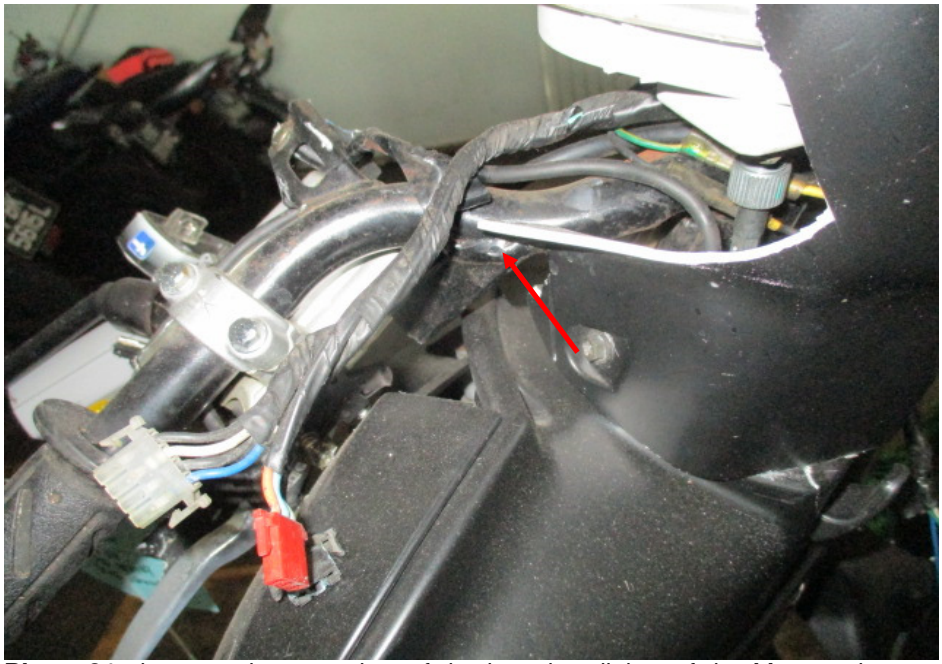


**Photo 21** shows a close up view of the bent handlebar of the Motorcycle as a result of the accident (arrowed). Hence we were unable to turn the handle bar towards the left or right.

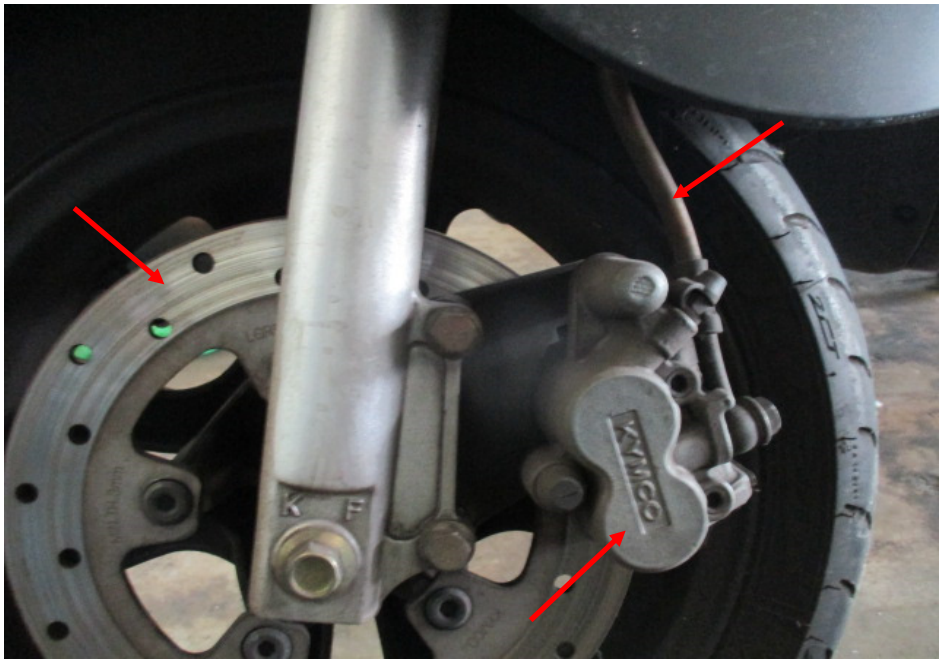



**Photo 22** shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

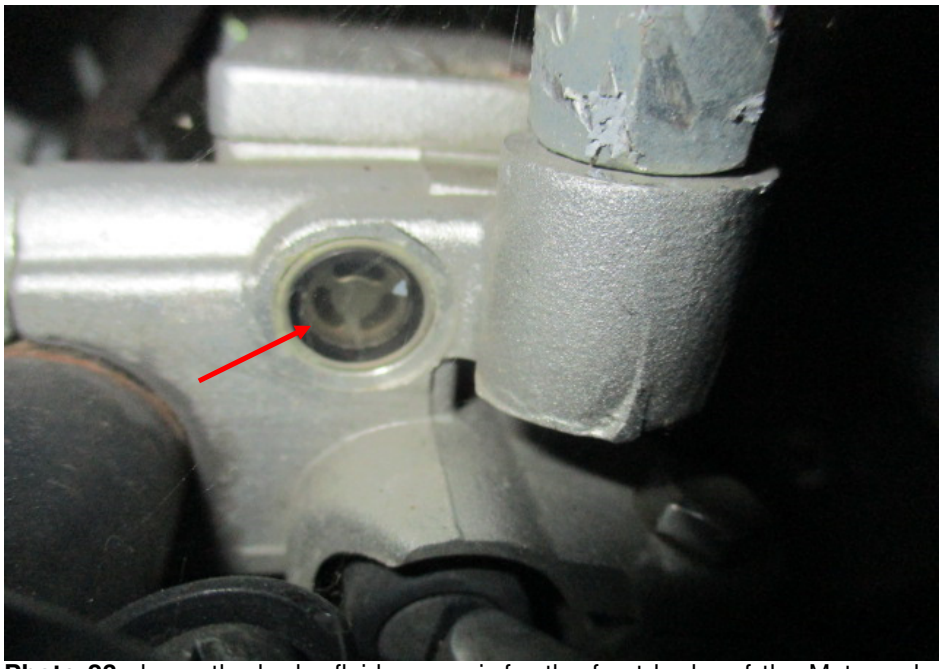


**Photo 23** shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be of sufficient level and without contamination for operational purposes (arrowed).

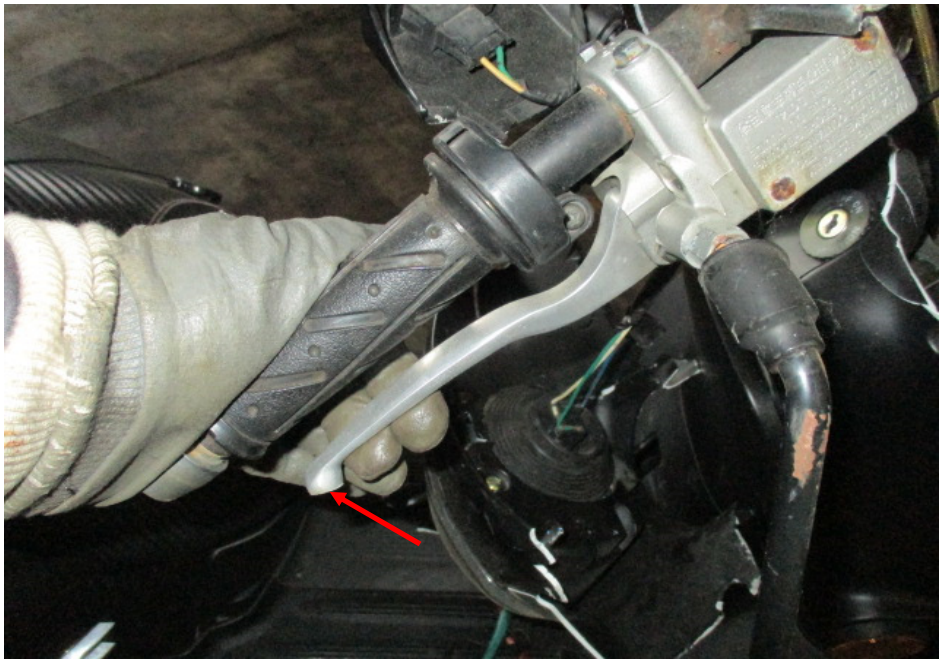


**Photo 24** shows the front brake lever being depressed. There was some resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). This would indicate that there is no leakage of pressure/vacuum in the brake system.

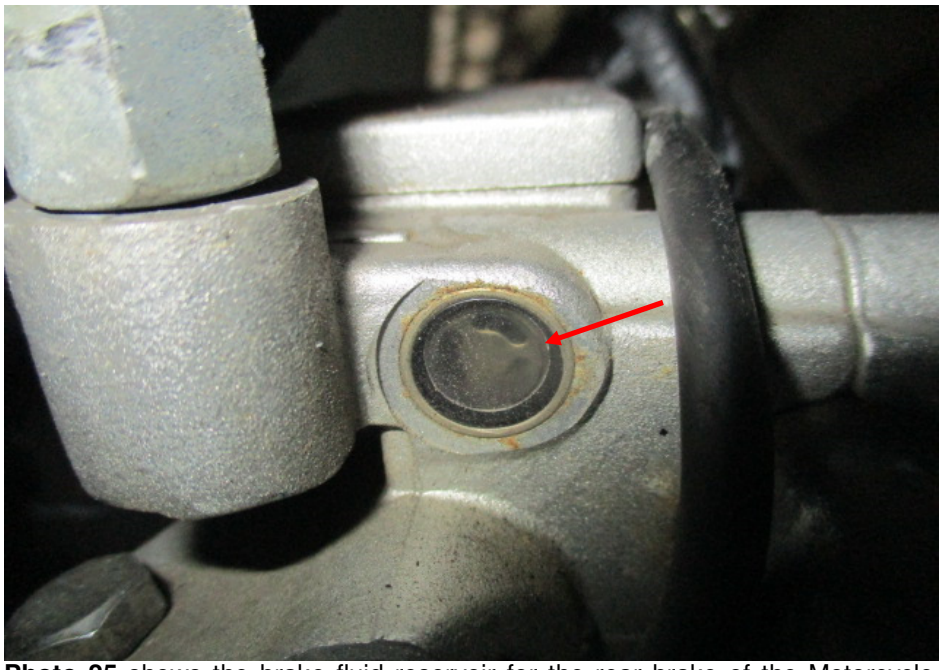


**Photo 25** shows the brake fluid reservoir for the rear brake of the Motorcycle. The brake fluid was observed to be of sufficient level and without contamination for operational purposes (arrowed).

**Photo 26** shows the rear brake lever being depressed. There was some resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). This would indicate that there is no leakage of pressure/vacuum in the brake system.

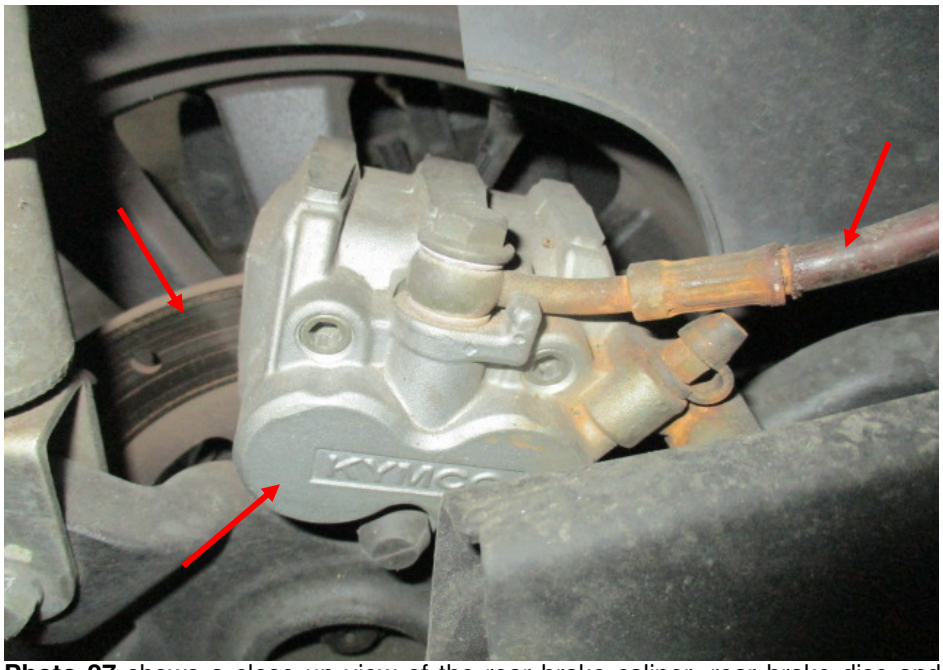
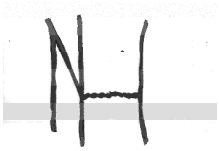


**Photo 27** shows a close up view of the rear brake caliper, rear brake disc and rear brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic rear brake system of the Motorcycle. Our visual checks of these various components revealed all to be intact with no visible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

## Conclusion

15. 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. However basing on our physical inspection of the Motorcycle, it appears that the braking system of the Motorcycle were all in serviceable condition.

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 each.



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