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Our Ref : CI/TPD19020634/N

22 November 2019

Fatal Accident Investigation Team

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

INSPECTION REPORT OF MOTORCYCLE FX 7596D

1. We refer to your request dated 22 October 2019 to conduct a physical inspection of a motorcycle bearing registration number FX 7596D (herein referred to as “**Motorcycle**”), which was involved in a fatal road traffic accident on 13 September 2019.
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 22 November 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.

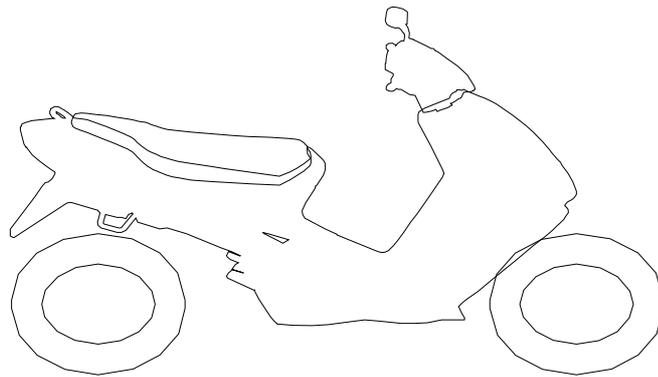
General Condition

4. The mileage of the Motorcycle at the time of our inspection was 38,803km
5. The Motorcycle was observed to have sustained damages along its frontal portion and right body. The body parts that were found to have been damaged include its front cowling, right cowling, front mudguard, front brake lever, right side mirror, rear brake pedal, right front footrest, exhaust muffler and top box, amongst others.

Tyres and Wheel Rims

6. The condition of the 2 tyres of the Motorcycle 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. Both the tyres were observed to be sufficiently inflated for vehicular operation.

7. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-



Maxxis 70/90 - 17 (4mm)

Maxxis 70/90 - 17 (3mm)

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 rear wheel rim of the Motorcycle. However we did observe that the front wheel rim was broken. See photos 1 – 16 below.



Photo 1 shows the speedometer gauge of the Motorcycle. The mileage of the Motorcycle at the time of our inspection was 38, 803km (circled).



Photo 2 shows a general view of the rear body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages along its frontal portion and right body.



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 along its frontal portion and right body.



Photo 4 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 along its frontal portion and right body. Amongst the body parts that were found to have been damaged include its front cowling, right cowling, front mudguard, front brake lever, right side mirror, rear brake pedal, right front footrest, exhaust muffler, and top box, amongst others.

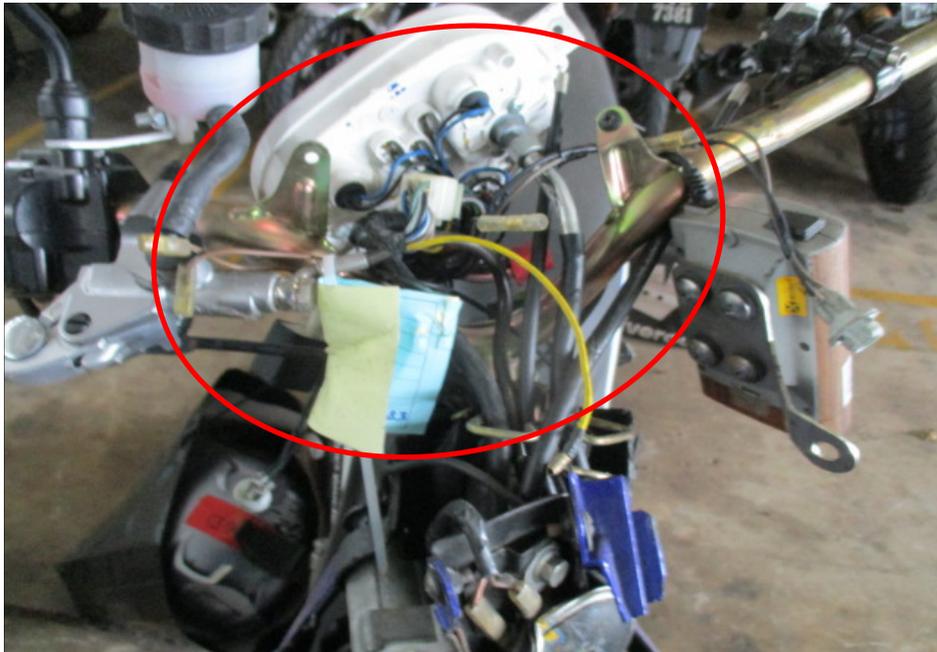


Photo 5 shows a close up view of the speedometer gauge and headlamp assembly (circled) which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

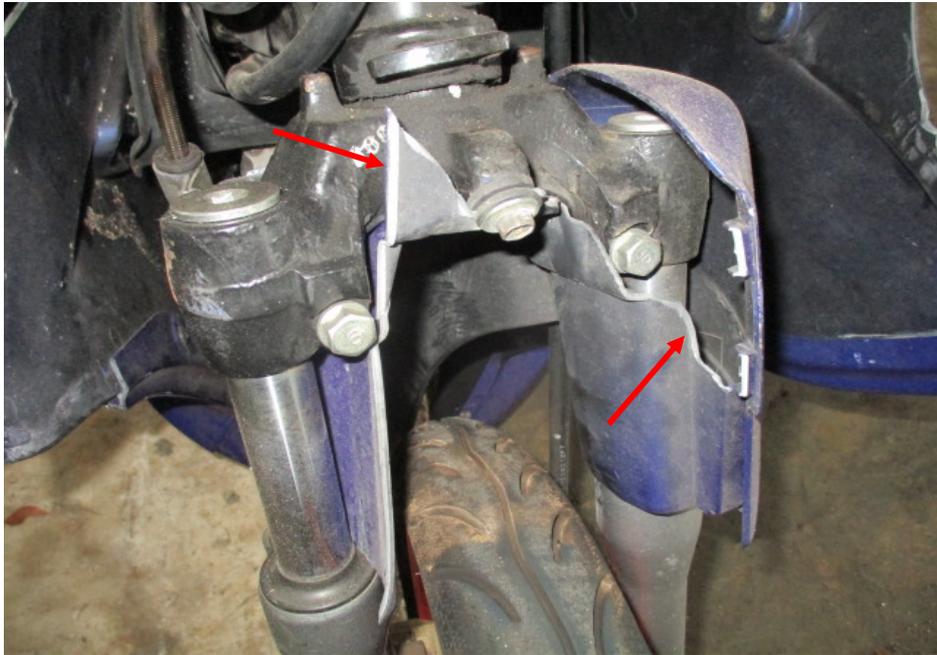


Photo 6 shows a closer view of the front mudguard (arrowed) which was amongst the body parts at the front body of the Motorcycle that had sustained damage as a result of the accident.



Photo 7 shows a closer view of the right cowling which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



Photo 8 shows the front brake lever, right handlebar end and right side mirror (arrowed), which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



Photo 9 shows a closer view of the rear brake pedal and right front footrest (circled) which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



Photo 10 shows a closer view of right rear side cover which was amongst the body parts of the Motorcycle that had sustained damages of grazing nature as a result of the accident (circled).



Photo 11 shows the exhaust muffler and exhaust muffler heat shield (circled) of the Motorcycle that had sustained damage as a result of the accident.



Photo 12 shows the right pillion footrest which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident (arrowed).



Photo 13 shows the front tyre of the Motorcycle at the time of our inspection. The front tyre was observed to be in serviceable condition with remaining tread depth of approximately 3mm. The pattern of the tread was also 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.



Photo 14 shows the broken front wheel rim of the Motorcycle at the time of our inspection (arrowed).



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 4mm. 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

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 chain of the motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. See photos 16 – 19 below.



Photo 16 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 17 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 18 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.

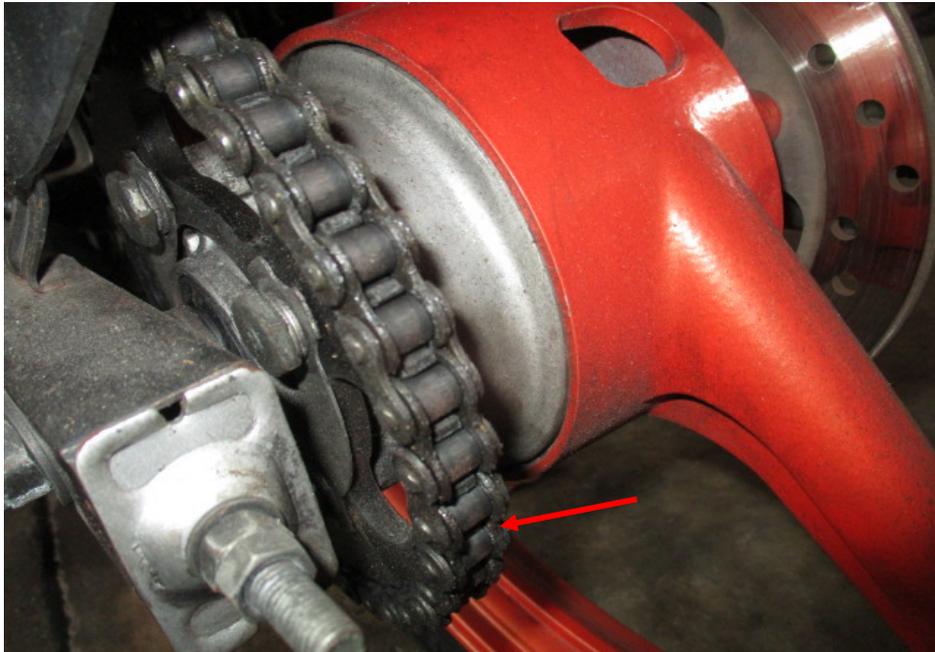


Photo 19 shows a closer view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

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 of its front fork. The left front fork was found to be bent inwards as a result of the accident. The steering column was also 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 front braking system like the brake disc, brake caliper and brake lever revealed all to be intact and without damage. We did observe that the front brake hose was cut as a result of the accident. Our checks on the brake fluid for the front brake of the Motorcycle revealed it to be at an insufficient level for operating purposes due to the leakage of brake fluid caused by the cut front brake hose as a result of the accident.

14. Our visual examination of the various components in the Motorcycle's rear braking system like the brake disc, brake caliper, brake foot pedal and brake hose revealed all to be intact and without damage. There was also no leakage of brake fluid observed along the brake hose. This was from the respective brake fluid reservoir to the rear brake caliper of the Motorcycle. The brake fluid for the rear brake was also found to be of sufficiently level and without any contamination.
15. 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.
16. 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 front fork, 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 20 – 27 below.



Photo 20 shows the broken steering column of the Motorcycle (arrowed) as a result of the accident. We were hence not able to conduct any tests on the steering system of the Motorcycle.



Photo 21 shows the front fork of the Motorcycle. The front left fork was observed to be bent inwards as a result of the accident (arrowed). We were hence not able to conduct any tests on the steering system of the Motorcycle.



Photo 22 shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was not contaminated however it was observed to be at an insufficient level for operating purposes due to the brake fluid leak caused by the cut front brake hose as a result of the accident.



Photo 23 shows the front brake lever being depressed. There was no resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). This would indicate that there is a leakage of pressure/vacuum in the brake system due to the cut front brake hose as a result of the accident.



Photo 24 shows a close up view of the front brake caliper, front brake disc (arrowed) and front brake hose of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of the front brake caliper and front brake disc had revealed all to be intact with no visible damage. However we did observe that the front brake hose had been cut as a result of the accident (circled).



Photo 25 shows a close up view of the front brake hose which was observed to be cut as a result of the accident (arrowed).

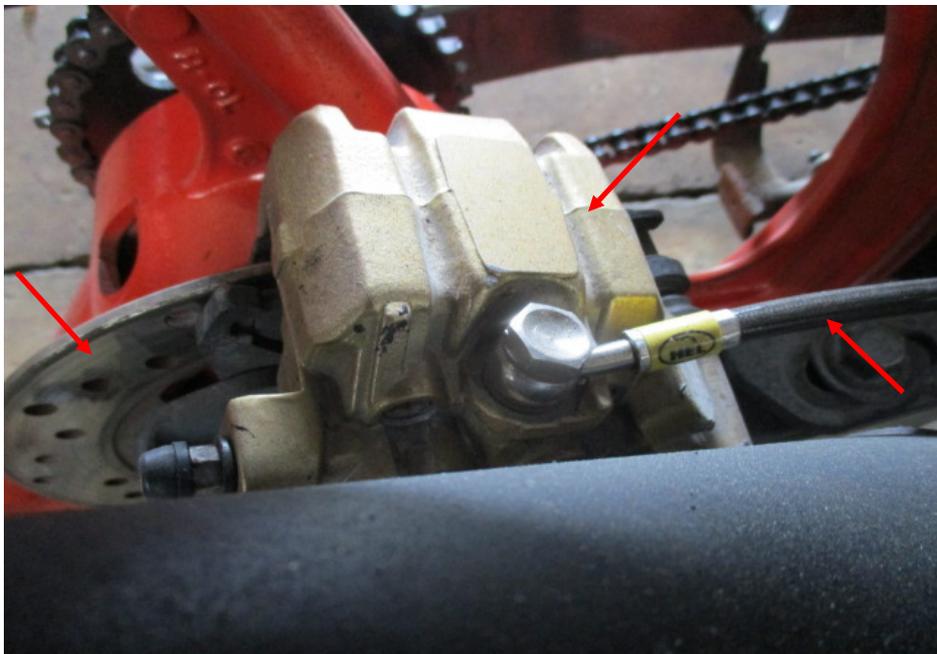


Photo 26 shows a close up view of the rear brake caliper, rear brake disc and rear brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic rear brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible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



Photo 27 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.

Conclusion

17. 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 and front braking system were all damaged as a result of the accident.

18. The 2 tyres of the Motorcycle were found to be in 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 2 tyres. The 2 tyres were sufficiently inflated for vehicular operation with remaining tread depth of approximately 3mm and 4mm each.

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