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Our Ref : CI/TPD19008276/N

15 May 2019

Fatal Accident Investigation Team

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBE 7418H

1. We refer to your request on 29 April 2019 to conduct a physical inspection of a motorcycle bearing registration number FBE 7418H (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 8 March 2019.
2. The objective of the inspection is to 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 15 May 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.

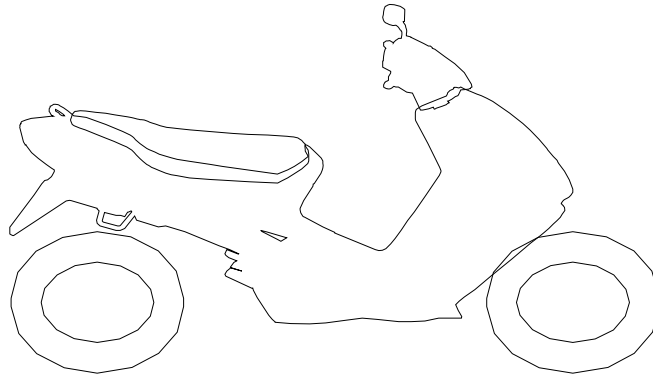
General Condition

4. The mileage of the Motorcycle at the time of our inspection was 72, 888km.
5. The Motorcycle had sustained damages all around. Body parts that were found to have been damaged include its headlamp assembly, front fork assembly, front wheel rim, side mirrors, clutch lever, front brake lever, fuel tank, exhaust muffler and rear side covers 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 of the Motorcycle were recorded as follows:-



Sime 2.50 R18 (3mm)

Sime 2.50 R18 (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 bent. See photos 1 – 12 below.



Photo 1 shows a general view of the rear body of the Motorcycle at the time of our inspection. The Motorcycle had sustained damages all around. The mileage of the Motorcycle at the time of our inspection was 72, 888km.



Photo 2 shows a general view of the left body of the Motorcycle at the time of our inspection. Body parts that were found to have been damaged include its headlamp assembly, front fork assembly, front wheel rim, side mirrors, clutch lever, front brake lever, fuel tank, exhaust muffler and rear side covers amongst others.



Photo 3 shows a general view of the front body of the Motorcycle at the time of our inspection. Body parts that were found to have been damaged include its headlamp assembly, fork assembly, speedometer gauge, side mirrors, clutch lever, front brake lever and petrol tank amongst others.



Photo 4 shows a closer view of the front fork assembly (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 5 shows a closer view of the speedometer gauge which was amongst the body parts at the front body of the Motorcycle that had sustained damage as a result of the accident.



Photo 6 shows a closer view of the side mirrors, clutch lever, front brake lever, handlebars, handlebar grips and handlebar ends of the Motorcycle. These parts were amongst the body parts of the Motorcycle which were damaged as a result of the accident.



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



Photo 8 shows a closer view of the exhaust muffler, which was 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, right front footrest and right front footrest bracket, which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



Photo 10 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. 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 front tyre.



Photo 11 shows the bent front wheel rim of the Motorcycle at the time of our inspection (arrowed).



Photo 12 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

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 13 – 16 below.



Photo 13 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 14 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 15 shows the gear chain (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes. The gear chain rotates the rear wheel of the Motorcycle.

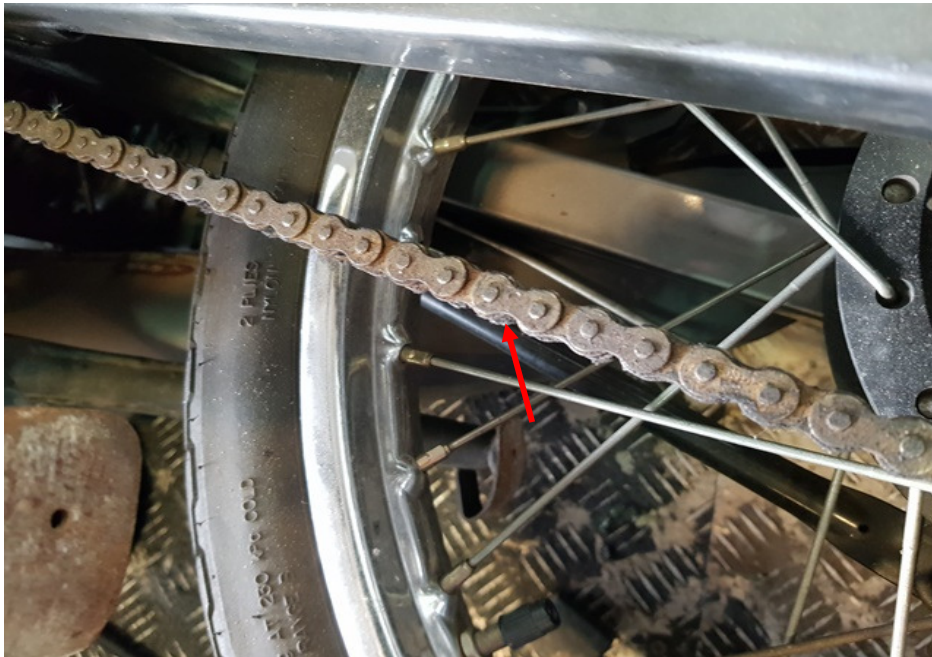


Photo 16 shows the closer view of the gear chain (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

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 front fork was found to be dislodged as a result of the accident.
12. 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, brake lever and brake foot pedal, revealed all to be intact and without damage. There was also no visible tear or cut observed on the connecting cables. However we did observe that the front brake hose was cut as a result of the accident.
13. 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.

14. 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. See photos 17 – 21 below.



Photo 17 shows the front right fork of the Motorcycle. The front right fork (arrowed) was observed to be dislodged as a result of the accident. We were hence not able to conduct any tests on the steering system of the Motorcycle.



Photo 18 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 19 shows a close up view of the front brake hose which was observed to be cut as a result of the accident (arrowed).



Photo 20 shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid 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 21 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. 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 braking system were all damaged as a result of the accident.
16. 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 each.

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