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Your Ref: TP/IP/56643/2020 19 March 2021
Our Ref : CI/TPD21003522/N

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBG 2194A

1. We refer to your request on 25 February 2021 to conduct a physical inspection of a motorcycle bearing registration number FBG 2194A (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 21 December 2020

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 18 March 2021 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

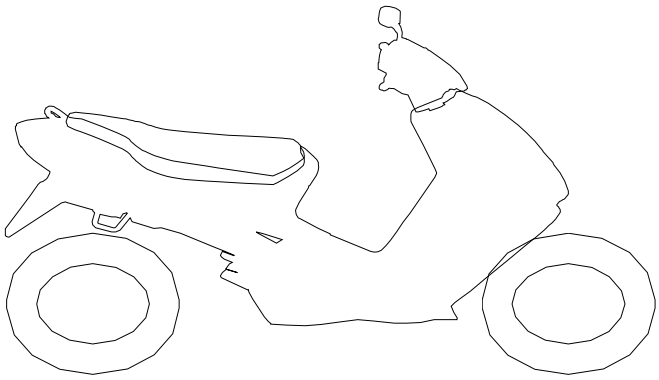
4. The mileage of the Motorcycle could not be recorded at the time of our inspection due to the damaged speedometer gauge.

5. The Motorcycle had sustained damages all around. Body parts that were found to have been damaged include its headlight assembly, speedometer gauge, front fork assembly, front mudguard, left tank cover, side mirrors, front brake lever, clutch lever, handlebar ends, rear brake pedal, belly pan and right radiator cover, 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:-



Metzeler 150/60 - 17 (3mm) Metzeler 110/70 - 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 bent. See photos 1 – 14 below.

Photo 1 shows the mileage of the Motorcycle which could not be recorded at the time of our inspection due to the damaged speedometer gauge (circled).

Photo 2 shows a general view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle had 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 had sustained damages all around. Body parts that were found to have been damaged include its headlight assembly, speedometer gauge, front fork assembly, front mudguard, left tank cover, side mirrors, front brake lever, clutch lever, handlebar ends, rear brake pedal, belly pan and right radiator cover, amongst others.

Photo 4 shows a closer view of the cracked headlight assembly of the Motorcycle as a result of the accident (arrowed).

Photo 5 shows a closer view of the clutch lever, left side mirror and left handlebar end (arrowed) of the Motorcycle. These parts were amongst the body parts of the Motorcycle which were damaged as a result of the accident.

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

Photo 7 shows a closer view of the left tank cover which was amongst the body parts of the Motorcycle that had sustained damages as a result of the accident.

Photo 8 shows a closer view of the right radiator cover which was amongst the body parts at the rear body of the Motorcycle that had sustained damages as a result of the accident (circled).

Photo 9 shows a closer view of the belly pan which was amongst the body parts at the front body of the Motorcycle that had sustained damages as a result of the accident (arrowed).

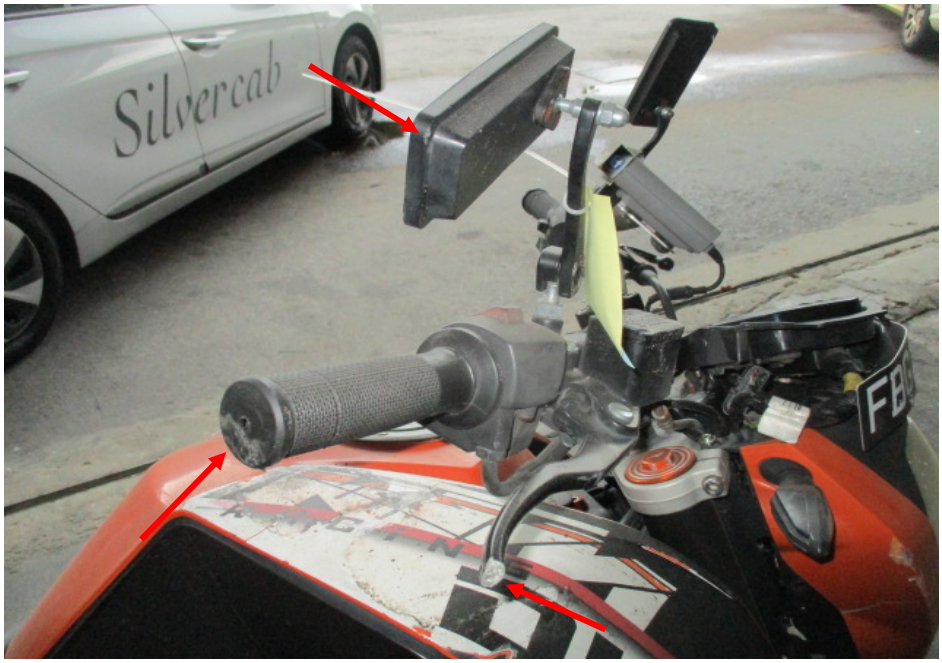


Photo 10 shows a closer view of the right side mirror and right handlebar end and front brake lever (arrowed), which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 11 shows the broken rear brake pedal of the Motorcycle as a result of the accident (arrowed).

Photo 12 shows the bent front wheel rim of the Motorcycle as a result of the accident at the time of our inspection (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 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 15 – 18 below.

Photo 15 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 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 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 18 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 forks. The right front fork was found to be bent inwards 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 braking system like the brake discs, brake calipers, brake lever and brake hoses revealed all to be intact and without damage. There was also no leakage of brake fluid observed along the brake hoses. This was from the respective brake fluid reservoirs to the front brake caliper and rear brake caliper of the Motorcycle. However the brake fluid for the front brake and rear brake were found to be of insufficient level for operational purposes. The rear brake pedal was also observed to be broken due to the accident.

14. Static brake tests conducted on the Motorcycle had appear to indicate that the front braking system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon pressing the brake lever. This would indicate that there was no leakage of pressure/vacuum in the front brake system.

15. Static brake tests could not be conducted on the Motorcycle's rear braking system due to a broken rear brake pedal.

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 forks, 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 19 – 24 below.

Photo 19 shows the front forks of the Motorcycle. The front right fork was observed to be bent inwards (arrowed) as a result of the accident. We were hence not able to conduct any tests on the steering system of the Motorcycle.

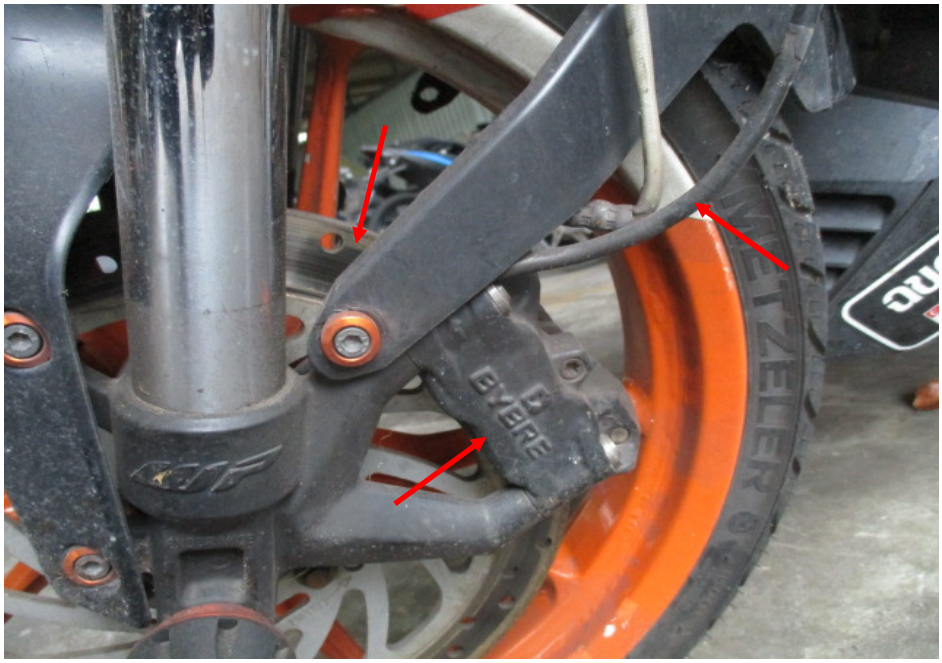


Photo 20 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

Photo 21 shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was found to be of insufficient level for operating purposes (arrowed).

Photo 22 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.

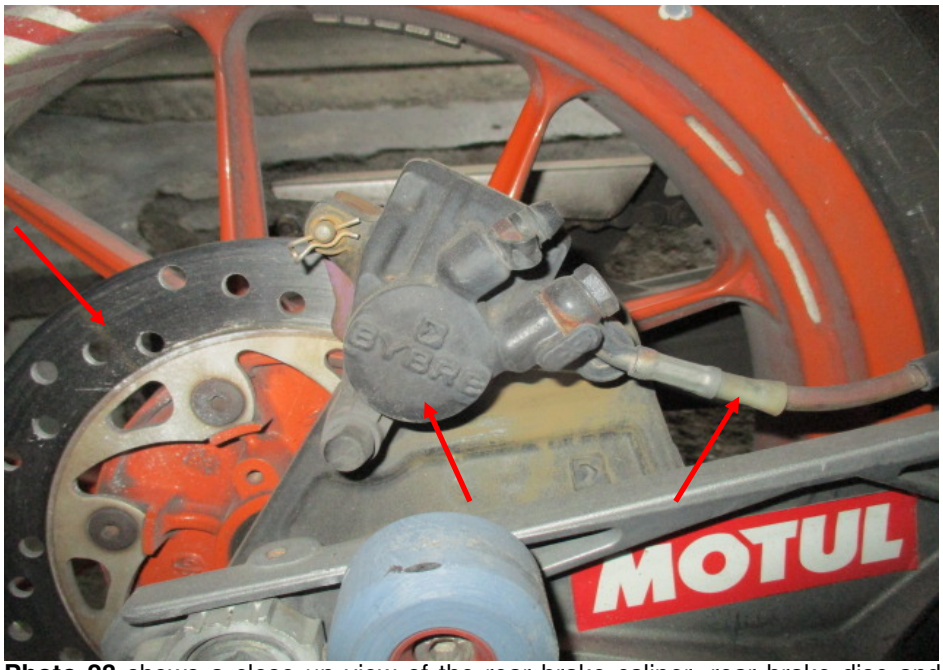


Photo 23 shows a close up view of the rear brake caliper, rear brake disc and rear brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic rear brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

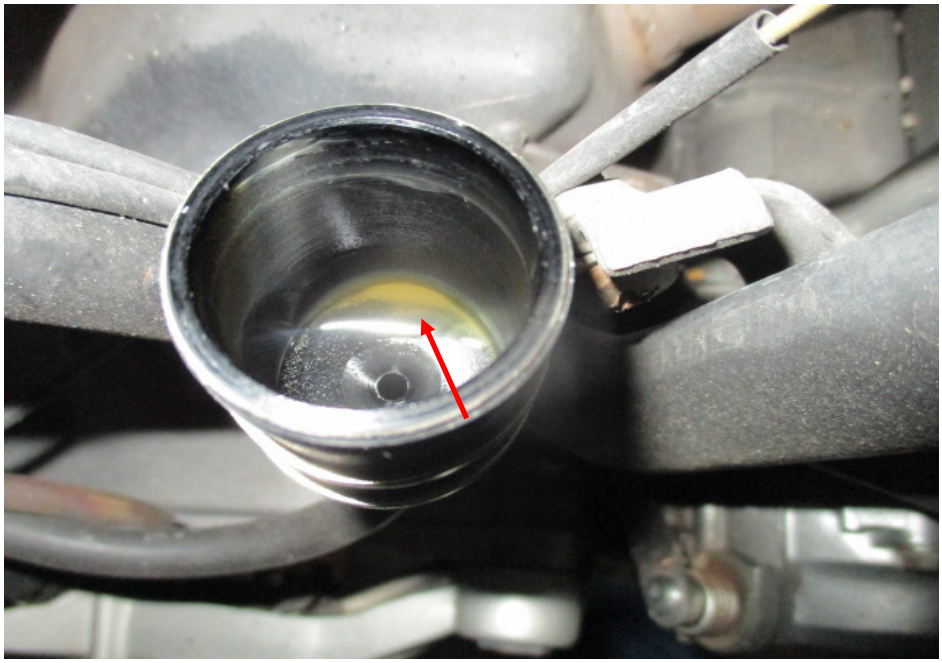


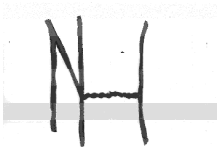
Photo 24 shows the brake fluid reservoir for the rear brake of the Motorcycle. The brake fluid was found to be of insufficient level for operating purposes (arrowed).

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 and rear braking system was damaged as a result of the accident. The front braking system of the Motorcycle was observed to be in serviceable condition.

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 each.

19. 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 damage of its front forks (as a result of the accident), which had rendered the Motorcycle immobile.



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