

Your Ref: TP/IP/49353/2020
Our Ref : CI/TPD21000484/N

2 March 2021

Fatal Accident Investigation Team

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

INSPECTION REPORT OF MOTORCYCLE FBK 7687R

1. We refer to your request dated 10 December 2020 to conduct a physical inspection of a motorcycle bearing registration number FBK 7687R (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 10 November 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 2 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.

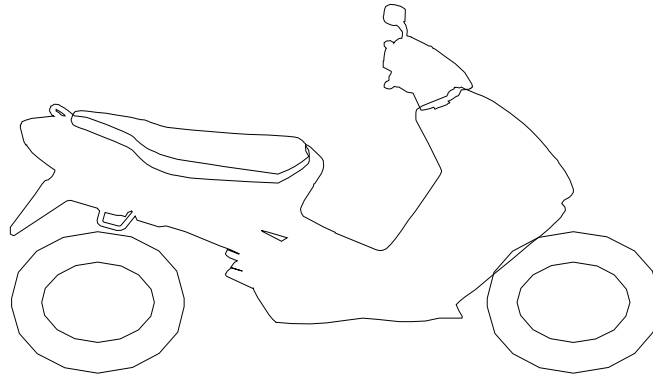
General Condition

4. The mileage of the Motorcycle at the time of our inspection was 101, 166km.
5. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its windshield, front mudguard, left cowling, clutch lever, side mirrors, handlebar, fuel tank, left pillion foot peg, rear side covers, right front footrest, exhaust muffler, exhaust muffler heat shield, top box rack and rear mudguard, 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:-



Pirelli 140/70 - 17 (3mm)

Pirelli 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 front and rear wheel rim of the Motorcycle. See photos 1 – 17 below.



Photo 1 shows the speedometer gauge of the Motorcycle. The mileage of the Motorcycle at the time of our inspection was 101, 166km (circled).



Photo 2 shows a general view of the frontal portion 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 left body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around. Amongst the body parts that were found to have been damaged include its windshield, front mudguard, left cowling, clutch lever, side mirrors, handlebar, fuel tank, left pillion foot peg, rear side covers, right front footrest, exhaust muffler, exhaust muffler heat shield, top box rack and rear mudguard, amongst others.



Photo 4 shows a close up view of the windshield which was amongst the body parts at the front of the Motorcycle that had sustained damage as a result of the accident (arrowed).



Photo 5 shows a closer view of the cracked front mudguard of the Motorcycle as a result of the accident.



Photo 6 shows a closer view of the left cowling which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident (circled).



Photo 7 shows the clutch lever, left handlebar end, side mirrors and handlebar (arrowed), which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

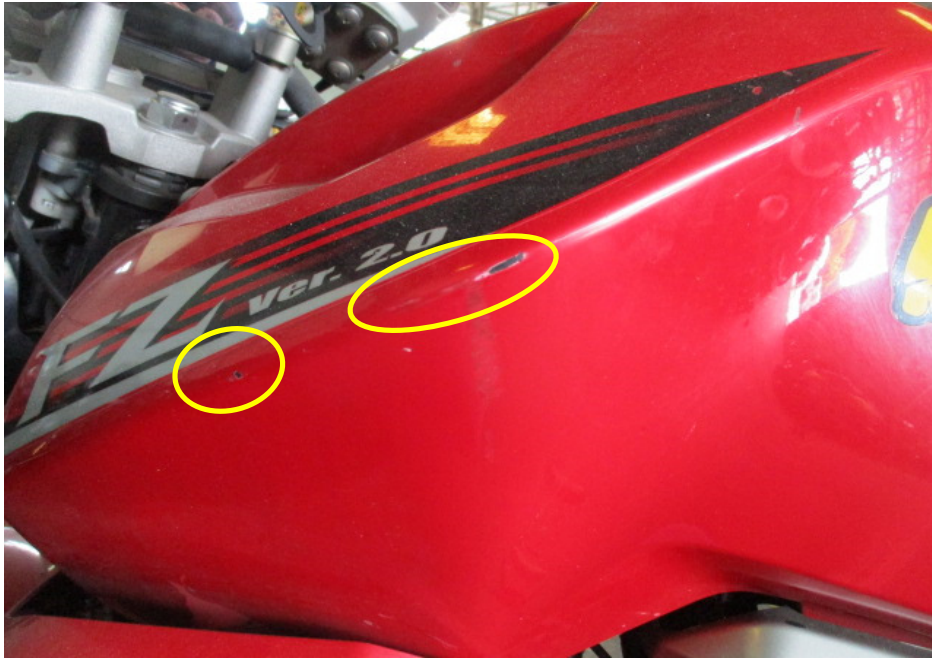


Photo 8 shows a closer view of the fuel tank (circled) which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



Photo 9 shows a closer view of the left 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 (arrowed).



Photo 10 shows a closer view of the 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 (arrowed).



Photo 11 shows a closer view of the left pillion foot peg which was amongst the body parts of the Motorcycle that had sustained damages of grazing nature as a result of the accident (circled).

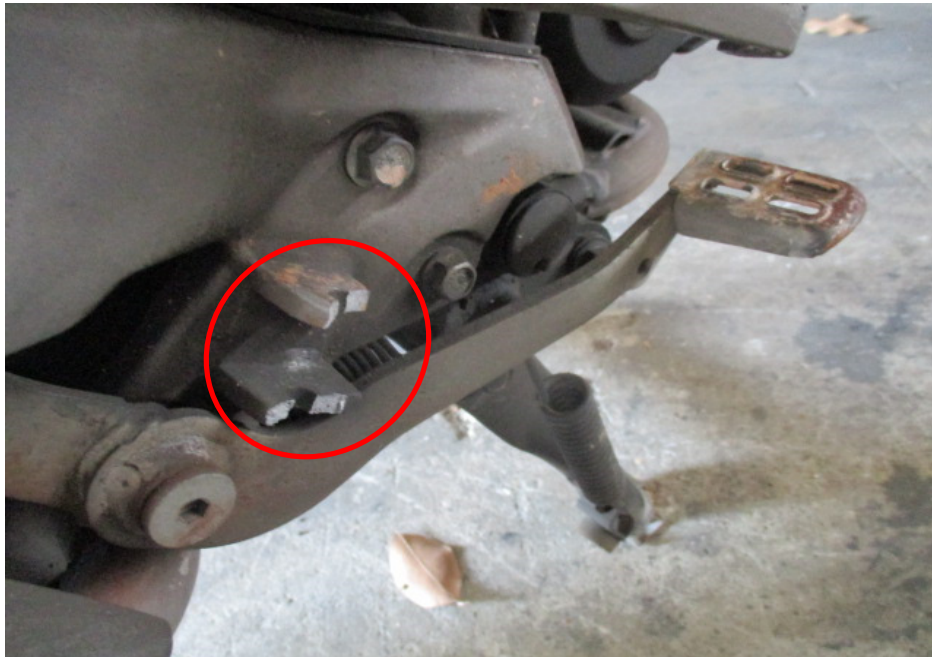


Photo 12 shows a closer view of the broken right footrest of the Motorcycle as a result of the accident (circled).



Photo 13 shows the cracked rear mudguard (circled) of the Motorcycle as a result of the accident.



Photo 14 shows the top box rack of the Motorcycle that had sustained extensive damage as a result of the accident.



Photo 15 shows a closer view of the exhaust muffler and exhaust muffler heat shield which were amongst the body parts of the Motorcycle that had sustained damages of grazing nature as a result of the accident (circled).



Photo 16 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 17 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 18 – 21 below.

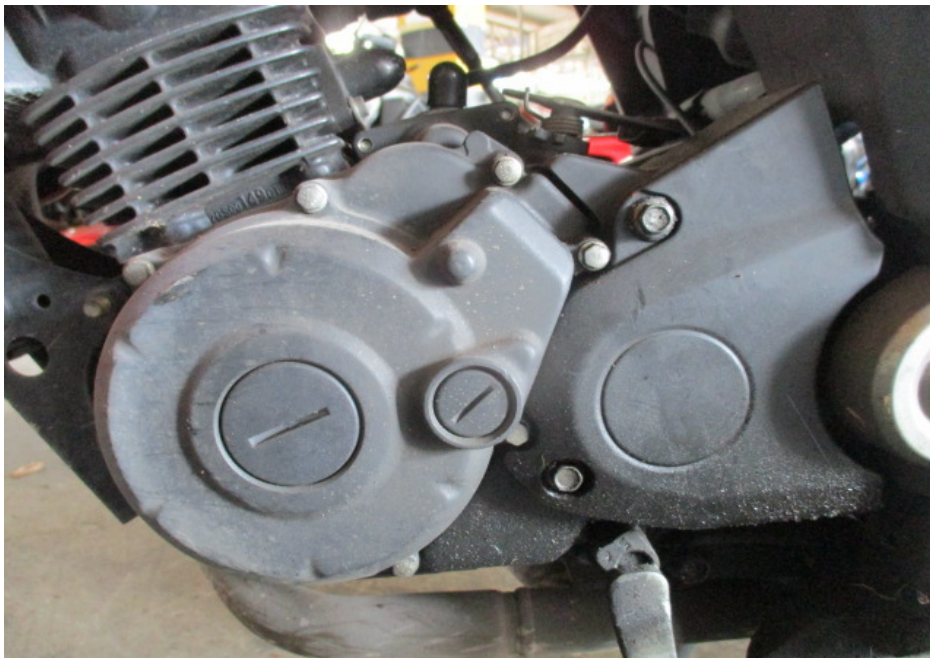


Photo 18 shows the left side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the left engine area of the Motorcycle.



Photo 19 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.

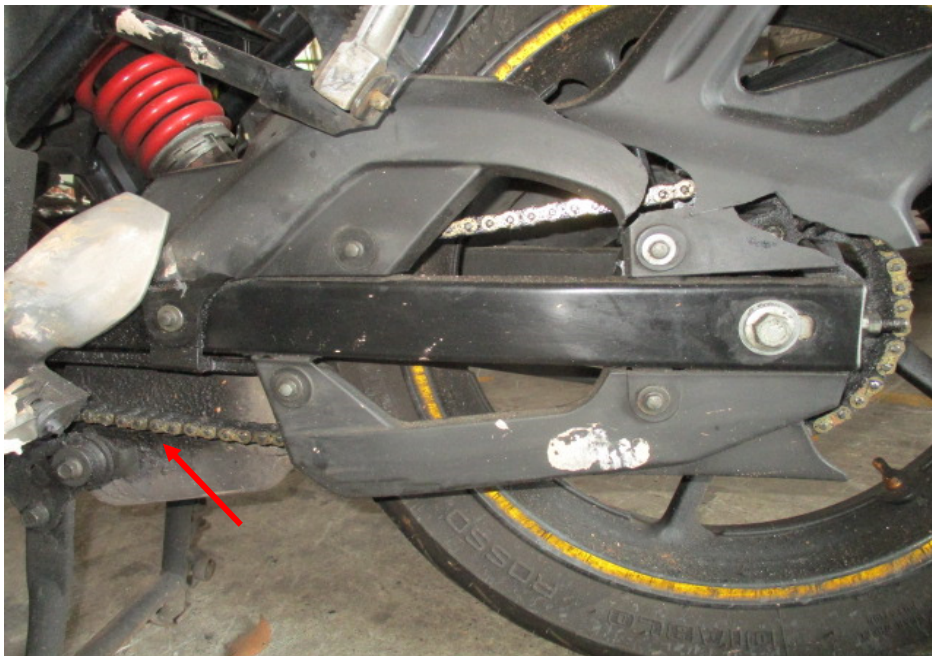


Photo 20 shows the general view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.



Photo 21 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 left front fork. The left front fork was found to be bent inwards 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 leakage of brake fluid observed along the front brake hose. This was from the respective front brake fluid reservoir to the front brake caliper of the Motorcycle. The brake fluid for the front brake was found to be of sufficient level for operating purposes. However the brake fluid was found to be slightly contaminated. There was also no visible tear or cut observed on the connecting hoses and cables.

13. 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 the front brake lever. This would indicate that there's no leakage of pressure/vacuum in the front brake system.
14. 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 the brake lever and stepping on the brake pedal. See photos 22 – 26 below.



Photo 22 shows the front forks of the Motorcycle. The left front fork was found to be bent inwards as a result of the accident (arrowed).

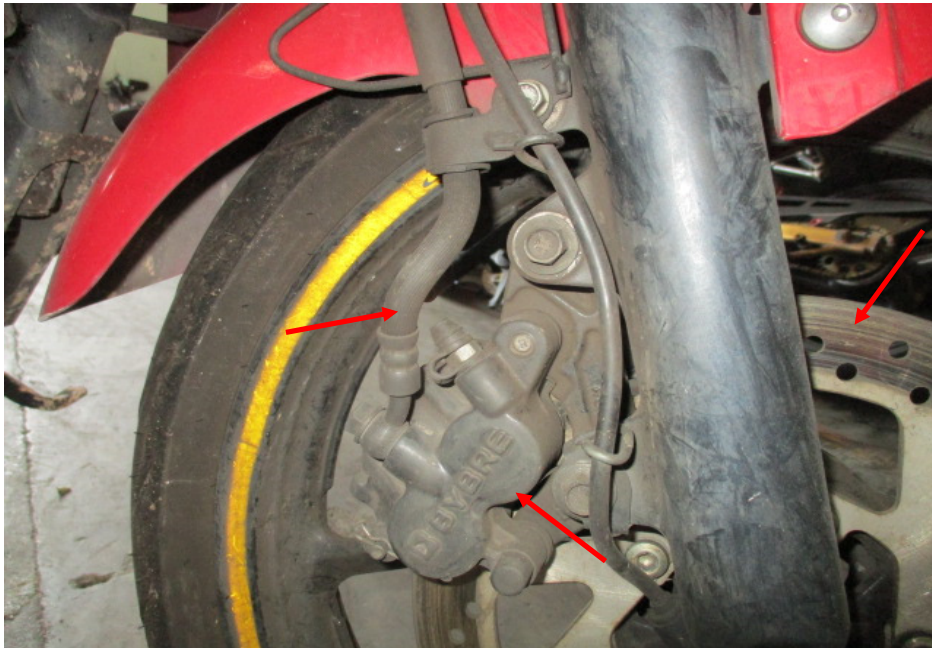


Photo 23 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no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



Photo 24 shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was found to be of sufficient level for operating purposes. However the brake fluid was found to be slightly contaminated (arrowed).



Photo 25 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 26 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 was damaged as a result of the accident.
16. Basing on our physical inspection of the Motorcycle, it appears that the braking system of the Motorcycle was in serviceable condition.
17. 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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