

Your Ref: TP/IP/17125/2021
Our Ref : CI/TPD21005553/N

31 May 2021

Fatal Accident Investigation Team

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

INSPECTION REPORT OF MOTORCYCLE FBL 5150E

1. We refer to your request dated 19 April 2021 to conduct a physical inspection of a motorcycle bearing registration number FBL 5150E (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 6 April 2021.
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 27 May 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.

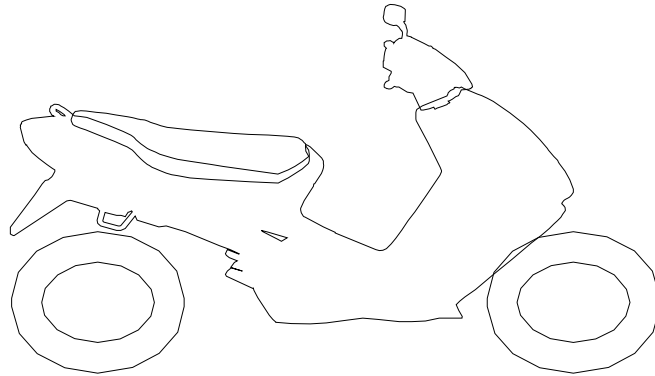
General Condition

4. The mileage of the Motorcycle at the time of our inspection was 88, 674km.
5. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include it front mudguard, gear shift pedal, clutch lever, left side mirror, left handlebar end, fuel tank, right pillion foot peg, rear side covers, left 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:-



Michelin 140/70 - 17 (4mm)

Michelin 100/80 - 17 (4mm)

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 88, 674km (circled).

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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 rear portion 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. Amongst the body parts that were found to have been damaged include it front mudguard, gear shift pedal, clutch lever, left side mirror, left handlebar end, fuel tank, right pillion foot peg, rear side covers, left front footrest, exhaust muffler, exhaust muffler heat shield, top box rack and rear mudguard, amongst others.



Photo 5 shows a closer view of the grazed front mudguard of the Motorcycle as a result of the accident (arrowed).



Photo 6 shows a closer view of the left front signal lamp 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 and left side mirror (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 cracked left rear side cover (arrowed) of the Motorcycle as a result of the accident.



Photo 10 shows a closer view of the cracked right rear side cover (arrowed) of the Motorcycle as a result of the accident.

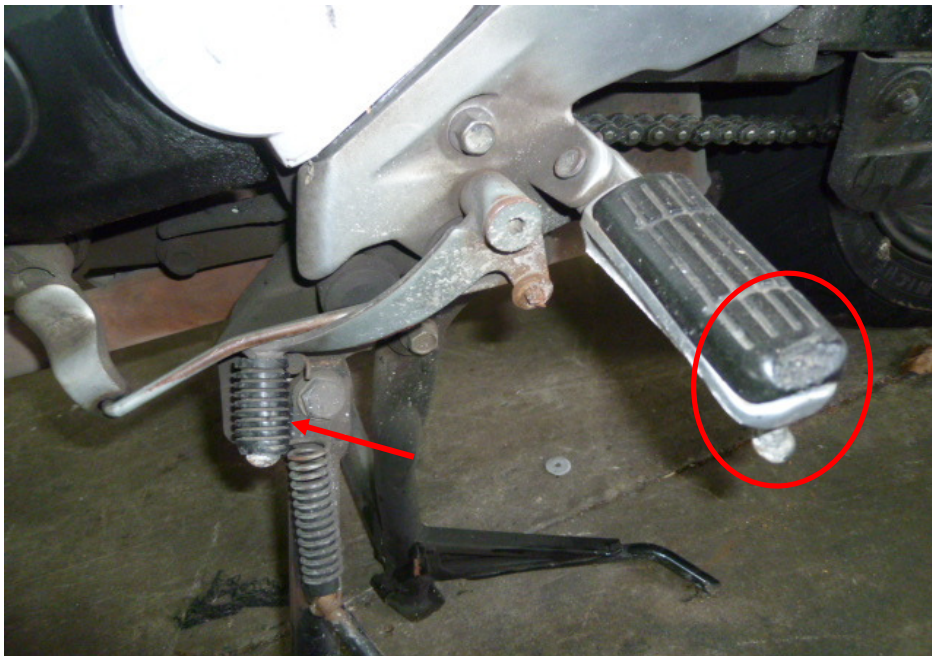


Photo 11 shows a closer view of the bent gear shift pedal (arrowed) and grazed left front footrest (circled) of the Motorcycle as a result of the accident.



Photo 12 shows a closer view of the broken right pillion footpeg 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 (arrowed).



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 4mm. 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 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 18 – 21 below.

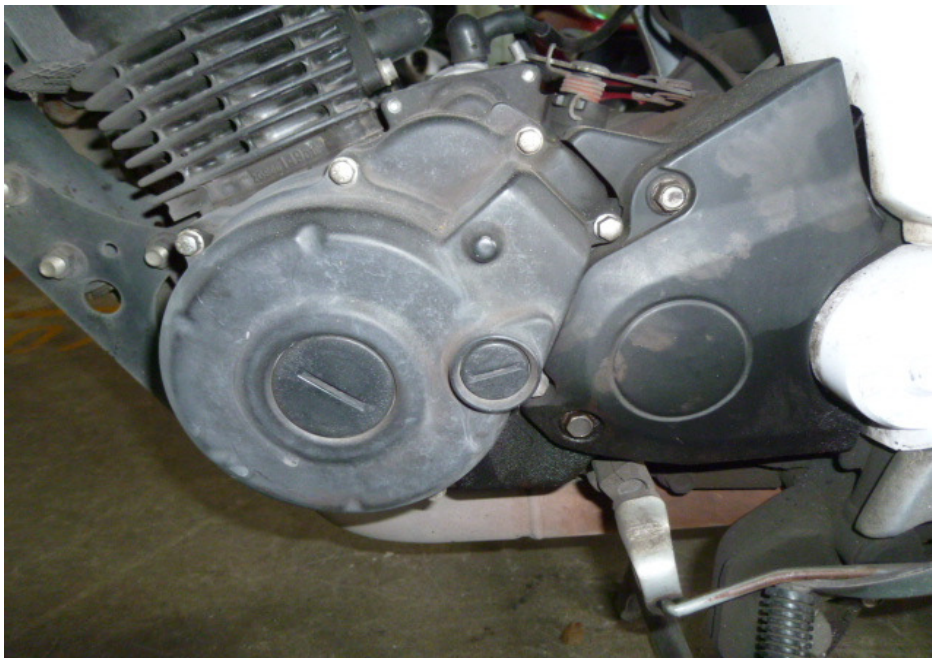


Photo 18 shows the left side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the left engine area of the Motorcycle.



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. Our checks on the various steering components of the Motorcycle revealed that its steering system was in serviceable condition. Its front fork was found to be intact and undamaged. Turning the handle bar towards the left and right also did not produce any abnormal free play and/or resistance.
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 contaminated. There was also no visible tear or cut observed on the connecting hoses and cables. However the rear brake cable was found to be dislodged as a result of the accident.

13. Static brake tests conducted on the Motorcycle had appeared to indicate that the front 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 front braking system. The front wheel of the Motorcycle was able to stop rotating immediately upon depressing the brake lever. However the rear wheel of the Motorcycle was unable to stop rotating immediately upon stepping on the brake pedal due to the dislodged rear brake cable. See photos 22 – 28 below.

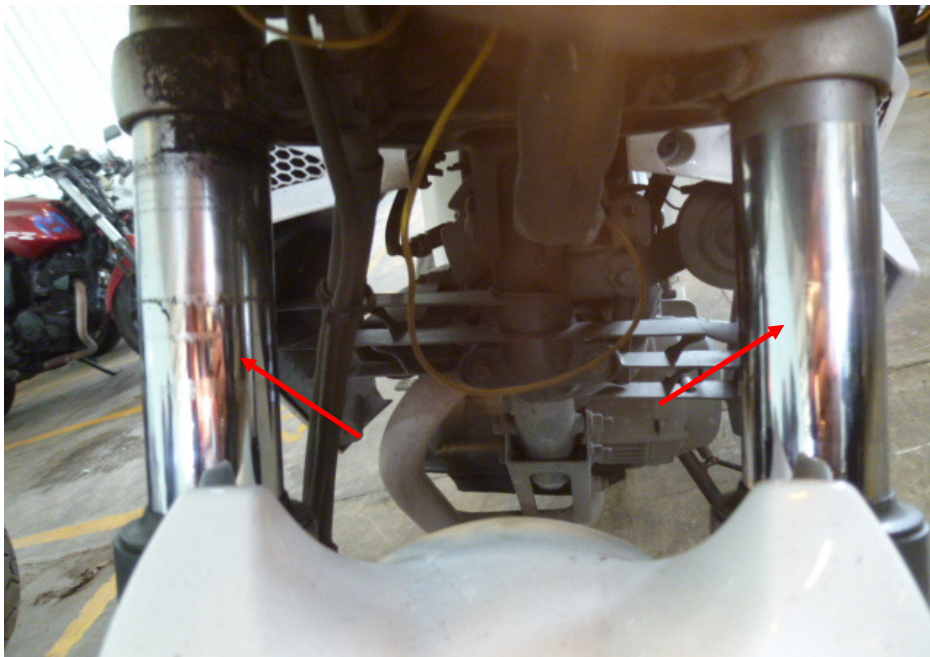


Photo 22 shows the front fork (arrowed) of the Motorcycle. The front fork and fork bracket of the Motorcycle were both found to be intact and undamaged. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. The steering system of the Motorcycle was in serviceable condition at the time of our inspection.



Photo 23 shows the front wheel of the Motorcycle turned towards its full left. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Motorcycle was in serviceable condition at the time of our inspection.



Photo 24 shows the front wheel of the Motorcycle turned towards its full right. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Motorcycle was in serviceable condition at the time of our inspection.

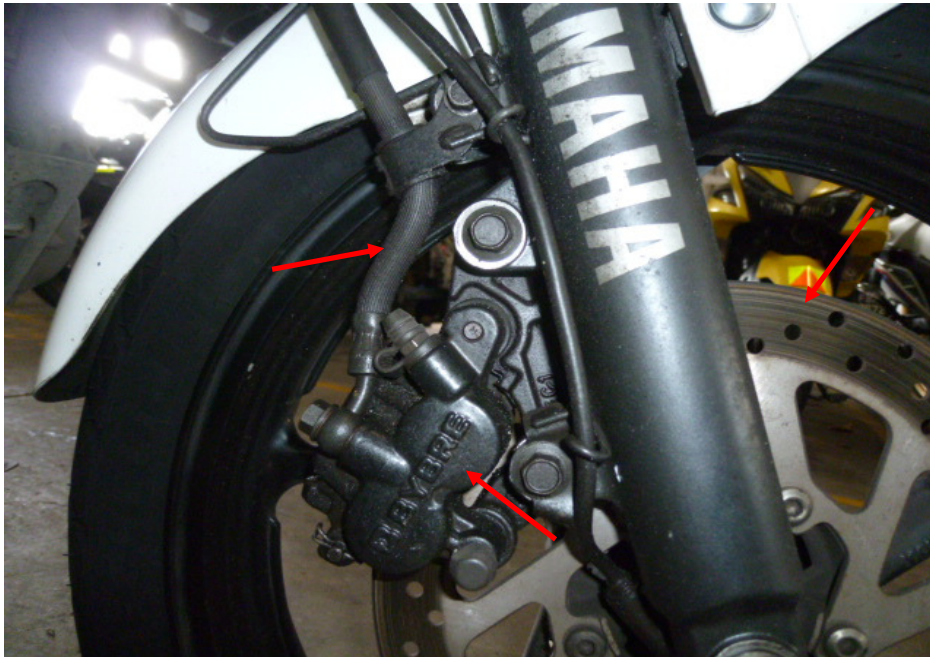


Photo 25 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.



Photo 26 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 contaminated (arrowed).



Photo 27 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 front brake system.



Photo 28 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 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. However the rear brake cable was observed to be dislodged as a result of the accident (arrowed).

Conclusion

15. Basing on our physical inspection of the Motorcycle, it appears that the steering system and front braking system of the Motorcycle were all in serviceable condition. Its rear braking system was 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 4mm each.

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