

Your Ref: TP/IP/59502/2021  
Our Ref : CI/TPD22002083/N

12 April 2022

**Fatal Accident Investigation Team**

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

**INSPECTION REPORT OF MOTORCYCLE FBT 1515X**

1. We refer to your request dated 10 January 2022 to conduct a physical inspection of a motorcycle bearing registration number FBT 1515X herein referred to as “**Motorcycle**”), which was involved in a fatal road traffic accident on 22 December 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 11 April 2022 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 flat battery of the key fob.
5. The Motorcycle was observed to have sustained damages at its frontal portion and right body. The body parts that were found to have been damaged include its front mudguard, right cowling, right side mirror, front brake lever, right handlebar end, right bottom cowling, right pillion foot peg, right rear side cover, top box rack, exhaust muffler heat shield, exhaust muffler and rear number plate, amongst others as a result of the accident. See photos 1 – 12 below.



**Photo 1** 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 at its frontal portion and right body. The mileage of the Motorcycle could not be recorded at the time of our inspection due to the flat battery of the key fob.



**Photo 2** 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 at its frontal portion and right body.





**Photo 3** 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 at its frontal portion and right body. The body parts that were found to have been damaged include its front mudguard, right cowling, right side mirror, front brake lever, right handlebar end, right bottom cowling, right pillion foot peg, right rear side cover, top box rack, exhaust muffler heat shield, exhaust muffler and rear number plate, amongst others as a result of the accident.



**Photo 4** shows a closer view of the front brake lever, right side mirror and right handlebar end of the Motorcycle which were observed to be damaged due to the accident (arrowed).



**Photo 5** shows a closer view of the front mudguard (circled) 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 right cowling which was amongst the body parts at the front body of the Motorcycle that had sustained damage as a result of the accident.

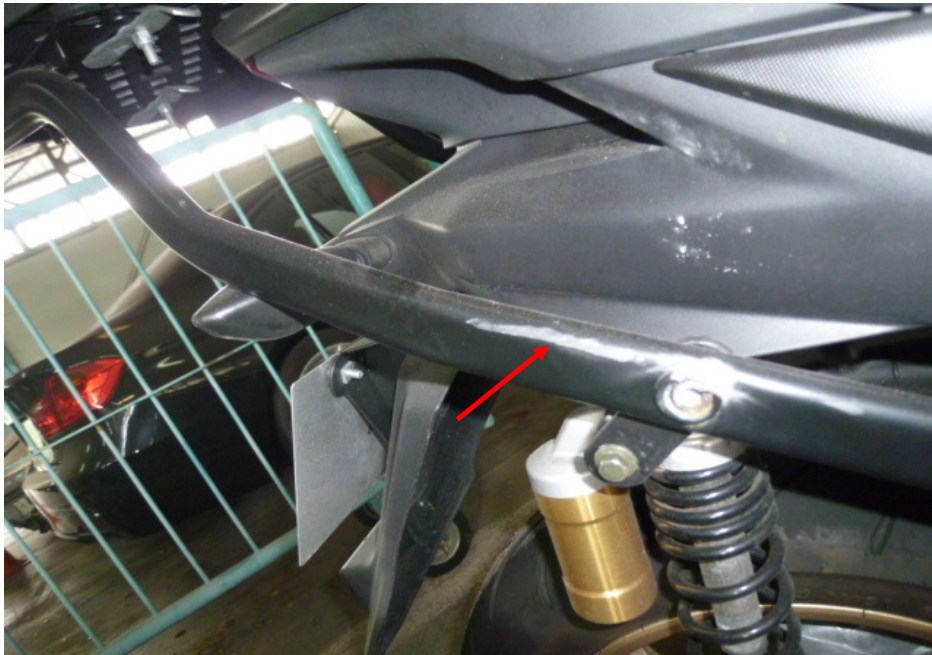




**Photo 7** shows a closer view of the right bottom cowling of the Motorcycle which was observed to be damaged due to the accident.



**Photo 8** shows a closer view of the grazed right pillion foot peg (circled) of the Motorcycle at the time of our inspection.



**Photo 9** shows the grazed top box rack (arrowed) of the Motorcycle as a result of the accident.



**Photo 10** show a closer view of the right rear side cover of the Motorcycle which was observed to be damaged due to the accident (arrowed).





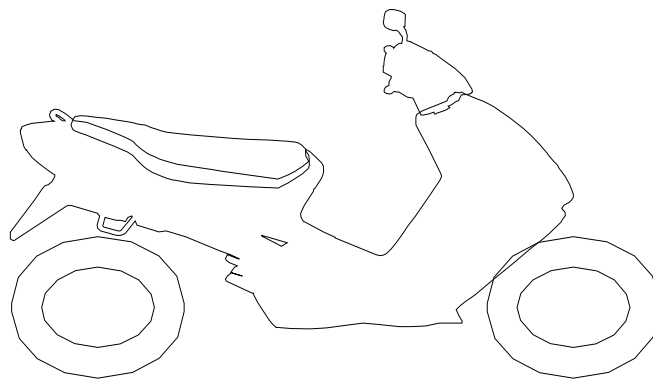
**Photo 11** shows a closer view of the grazed exhaust muffer heat shield (arrowed) and dented exhaust muffer (arrowed) of the Motorcycle as a result of the accident.



**Photo 12** shows a closer view of the grazed top box (arrowed) of the Motorcycle as a result of the accident.

**Tyres and Wheel Rims**

6. The condition of the Motorcycle's 2 tyres was observed to be in serviceable condition. The tread pattern of the 2 tyres was clearly visible. 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. The 2 tyres were both observed to be sufficiently inflated for vehicular operation. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-



IRC 140/70 - 14 (8mm)

IRC 110/80 - 14 (6mm)

7. 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 13 & 14 below.





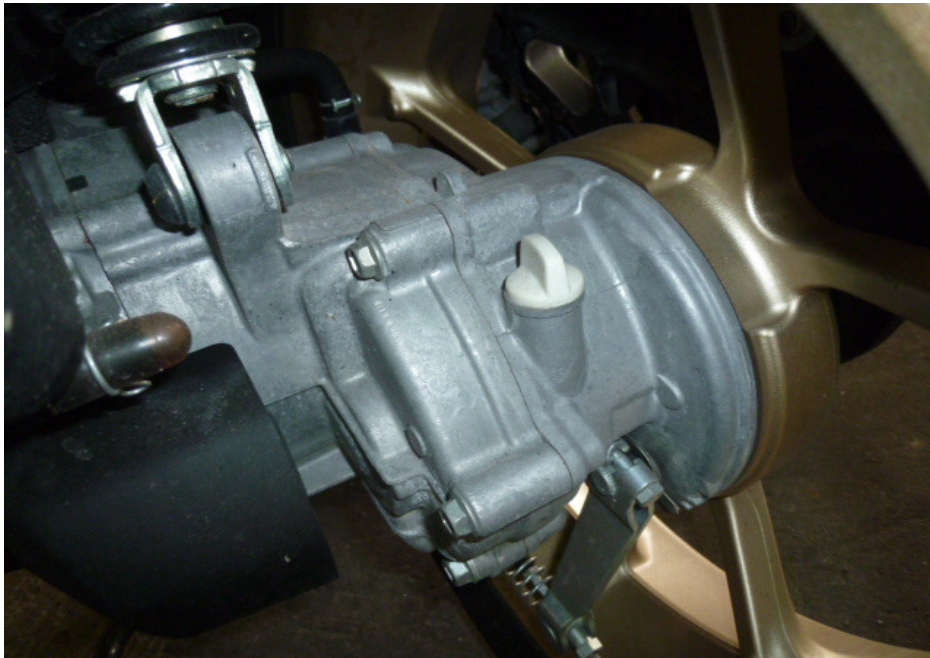
**Photo 13** shows the condition of the Motorcycle's front tyre. The front tyre was observed to be in serviceable condition with remaining tread depth of approximately 6mm. There was no tear, burst mark(s) and/or punctured hole(s) on the sidewalls as well as across the tread of the front tyre.



**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 8mm. 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**

8. 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.
9. The drive train of the Motorcycle was found to be intact without any misalignment. There was no visible tear or cut observed on the connecting hoses and cables. The shock absorbers of the Motorcycle were also found to be intact without any misalignment. See photos 15 - 19 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 radiator of the Motorcycle at the time of our inspection. The radiator was found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the radiator of the Motorcycle.



**Photo 17** shows the drive train of the Motorcycle which was found to be intact without any misalignment.



**Photo 18** shows the left shock absorber of the Motorcycle which was found to be intact without any misalignment.

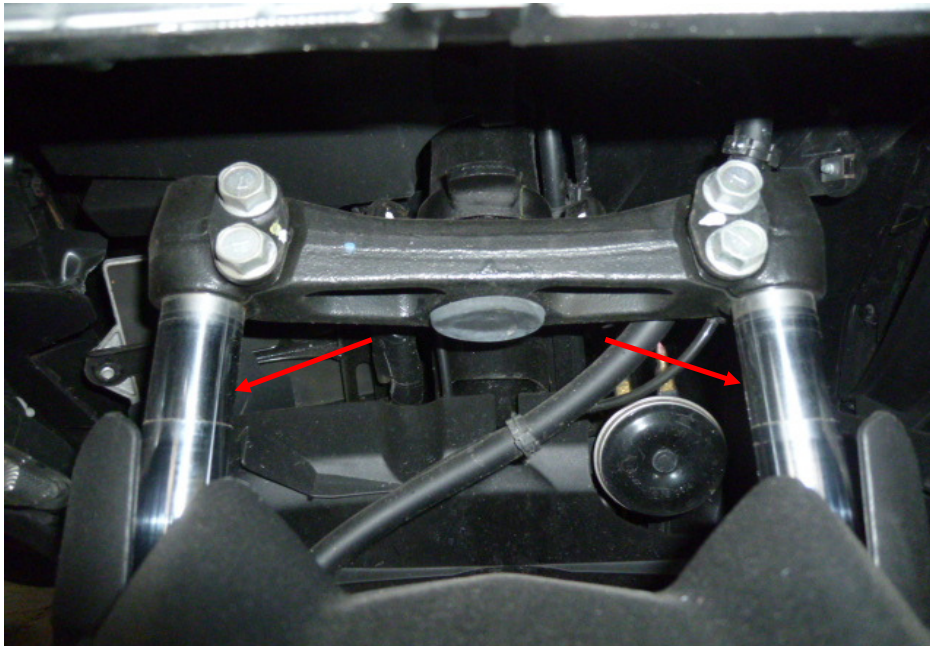


**Photo 19** shows the right shock absorber of the Motorcycle which was found to be intact without any misalignment.



**Steering System & Braking System**

10. Our checks on the various steering components of the Motorcycle had revealed that its steering system was in serviceable condition. Its front forks and fork brackets were both 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.
11. 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 and brake levers 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 observed to be of sufficient level for operating purposes. However it was found to be slightly contaminated. There was also no visible tear or cut observed on the connecting hoses and cables.
12. 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.
13. 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 both brake levers.
14. In general, the observations gathered during the brake test had indicated that the braking system of the Motorcycle was in serviceable condition. See photos 20 – 26 below.



**Photo 20** shows the front forks (arrowed) of the Motorcycle. The front forks and fork brackets 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.

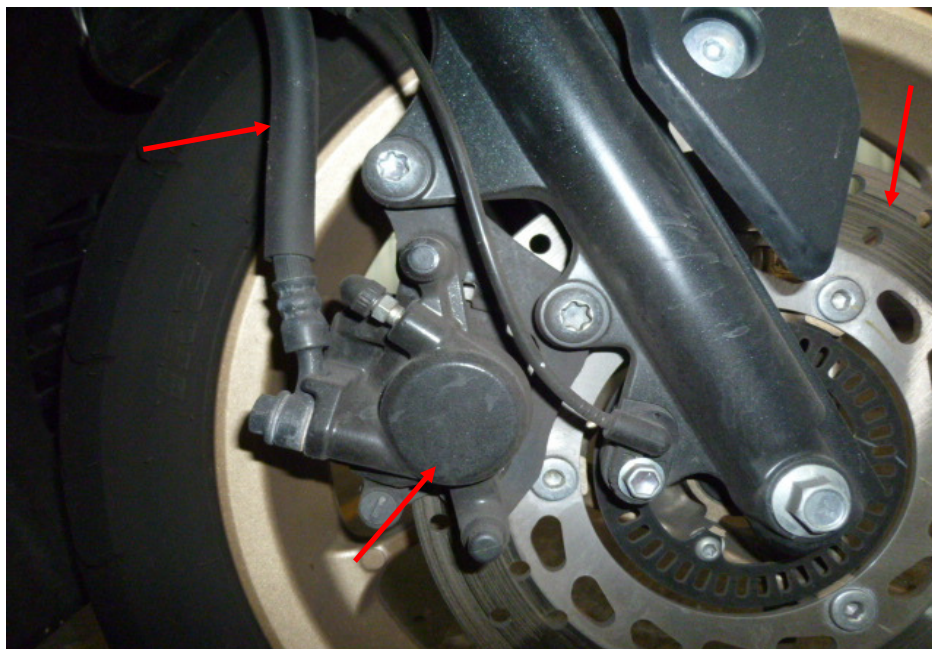


**Photo 21** shows the front wheel of the Motorcycle turned towards its full right. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Motorcycle was in serviceable condition at the time of our inspection.

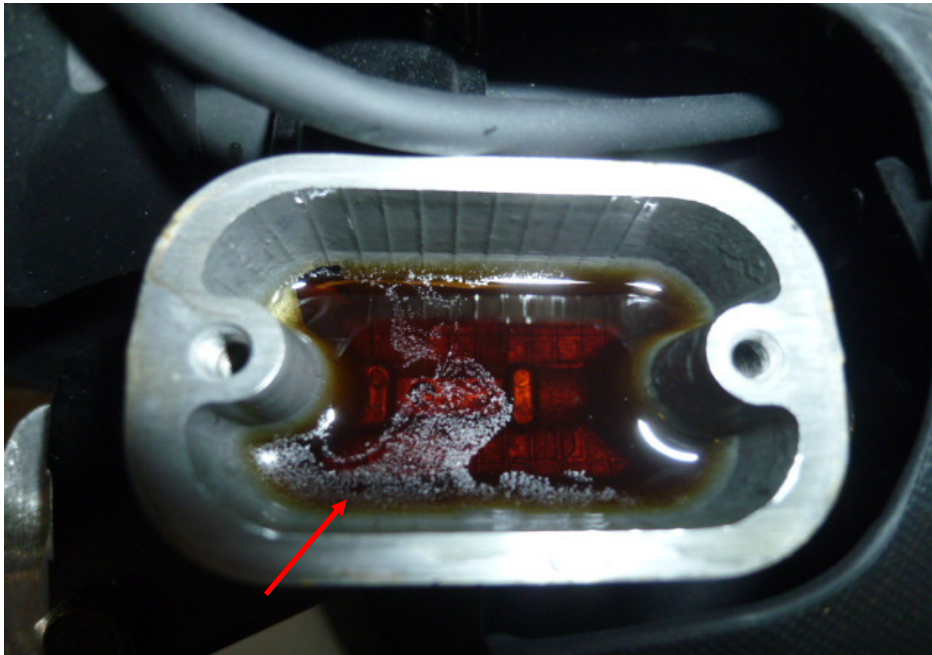




**Photo 22** shows the front wheel of the Motorcycle turned towards its full left. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Motorcycle was in serviceable condition at the time of our inspection.



**Photo 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 a close up view of the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be of sufficient level for operational purposes. However it 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 front 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. Basing on our physical inspection of the Motorcycle, it appears that the steering system and braking system of the Motorcycle were all in serviceable condition. We did not find any evidence(s) to suggest that there was possible mechanical failure to the Motorcycle that may have caused and/or contributed to the accident.

16. The tyres of the Motorcycle were found to be in a 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 tyres. It was sufficiently inflated for vehicular operation with remaining tread depth of approximately 6mm and 8mm.

**Muhd Nazril***Senior Technical Investigator***Ang Bryan Tani***AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA**Senior Technical Investigator**Technical Investigation & Reconstructionist (SAE-A)*

**DISCLAIMER OF LIABILITY TO THIRD PARTIES:-** This Report is made solely for the use and benefit of the Client named on the front page of this Report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report, in whole or in part, does so at his or her own risk.