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Our Ref : CI/TPD19012883/N

2 August 2019

**Fatal Accident Investigation Team**

Traffic Police Department  
Singapore Police Forc3035e  
10 Ubi Avenue 3  
Singapore 408865

**INSPECTION REPORT OF MOTORCYCLE FBG 8685K**

1. We refer to your request dated 3 July 2019 to conduct a physical inspection of a motorcycle bearing registration number FBG 8685K (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 15 June 2019.
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 1 August 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.

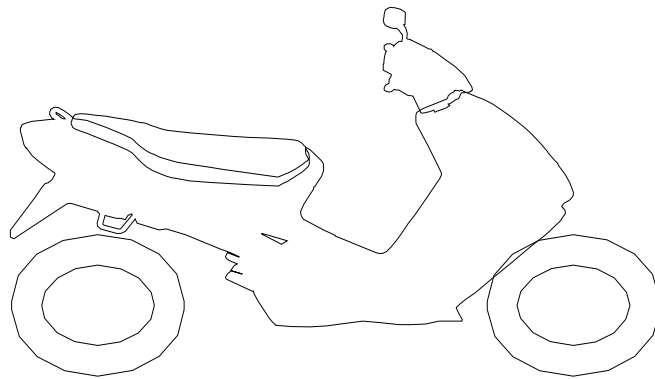
**General Condition**

4. The mileage of the Motorcycle at the time of our inspection was 55, 273km.
5. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its headlight cowl, front cowling, front mudguard, side cowlings, front brake lever, right side mirror, right front footrest, rear brake pedal, right rear side cover and exhaust muffler, 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:-



Dunlop 80/90 - 17 (3mm)

Dunlop 70/90 - 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 – 15 below.



**Photo 1** shows the speedometer gauge of the Motorcycle where the mileage recorded at the time of our inspection was 55, 273km (circled).



**Photo 2** shows a general view of the front 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 right 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 headlight cowl, front cowl, front mudguard, side cowlings, front brake lever, right side mirror, right front footrest, rear brake pedal, right rear side cover and exhaust muffler, amongst others.





**Photo 4** shows a closer view of the headlight cowl which was amongst the body parts at the front body of the Motorcycle that had sustained damage of grazing nature (circled) as a result of the accident.



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



**Photo 6** 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 7** shows a closer view of the right cowling of the Motorcycle that had sustained damages as a result of the accident.





**Photo 8** shows a closer view of the front brake lever, right handlebar end and right side mirror (circled) which were 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 front box which was amongst the body parts of the Motorcycle that had sustained damage of grazing nature (circled) as a result of the accident.



**Photo 10** shows a closer view of the right front footrest (arrowed) and rear brake pedal (circled) which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



**Photo 11** shows the right rear side cover of the Motorcycle which was observed to be missing as a result of the accident (circled).





**Photo 12** shows 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.



**Photo 13** shows a closer view of the left cowling of the Motorcycle that had sustained damages as a result of the accident.





**Photo 14** 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. 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 15** 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 engine area of the Motorcycle, we had observed that the various engine related parts and components on the left side of the Motorcycle were intact with no visible damage. There was also no fluid leak and/or fluid stain found around the left engine area of the Motorcycle. The various right engine components had sustained damage of grazing nature as a result of the accident however the engine components were still intact. There was also no fluid leak and/or fluid stain found around the right 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 16 – 19 below.



**Photo 16** 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 17** shows the right side of the engine of the Motorcycle at the time of our inspection. The various left engine components had sustained damage of grazing nature as a result of the accident (arrowed) however the engine components were still intact. There was also no fluid leak and/or fluid stain found around the right engine area of the Motorcycle.



**Photo 18** 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 19** 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 without any contamination however it was of insufficient level for operating purposes. There was also no visible tear or cut observed on the connecting hoses and cables.



13. 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.
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.
15. 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 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.

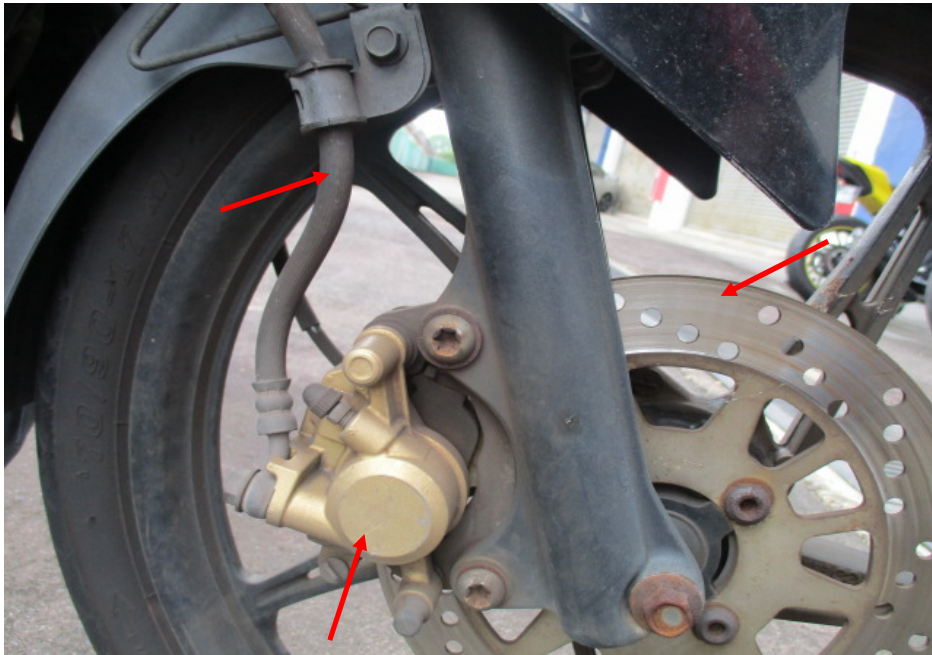


**Photo 21** shows the front wheel of the Motorcycle turned towards its full left. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Motorcycle was in serviceable condition at the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



**Photo 22** 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.

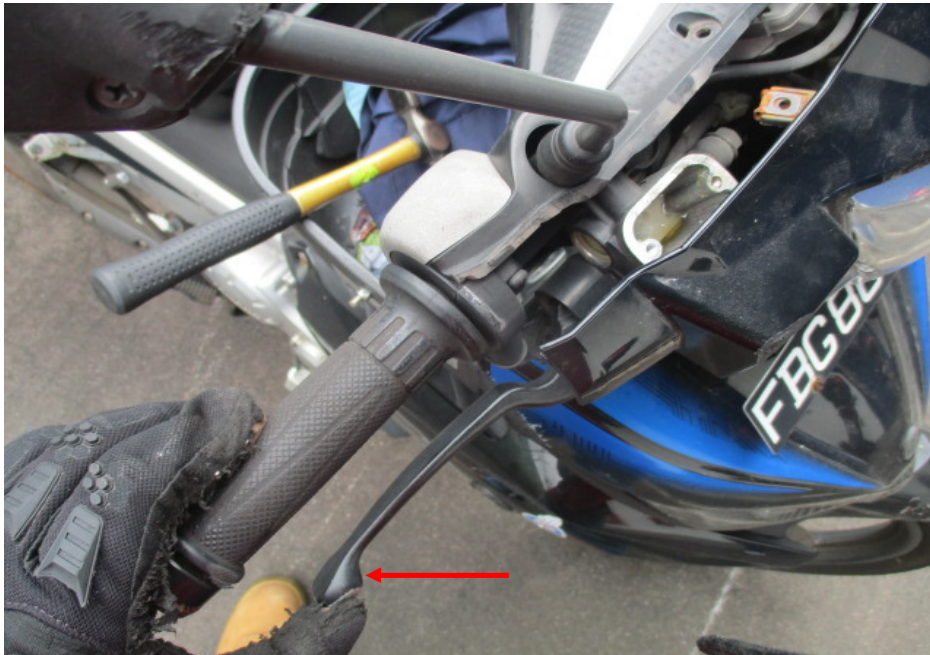




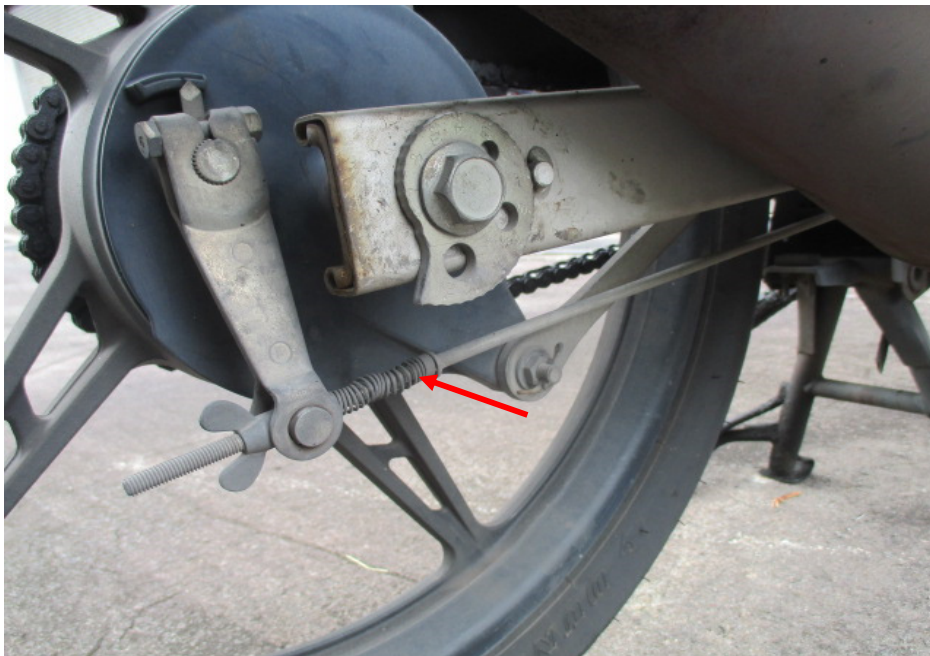
**Photo 23** shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with 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 observed to be without contamination however it was of insufficient level for operational purposes.



**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**

16. 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.
17. For this case, although the brake fluid for the front braking system was found to be of insufficient level, our operational test had indicated that the front braking system was still in serviceable condition and the front wheel was able to stop rotating when the front brake lever was depressed.
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.

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