

Your Ref: TP/IP/43523/2019  
Our Ref : CI/TPD19013996/N

21 August 2019

**Fatal Accident Investigation Team**

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

**MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBD 3852H**

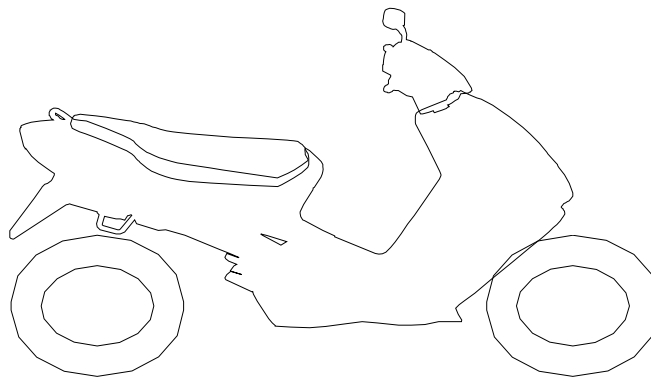
1. We refer to your request on 5 August 2019 to conduct a physical inspection of a motorcycle bearing registration number FBD 3852H (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 13 July 2019.
2. The objective of the inspection is to determine if there 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 21 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 not recorded due to the damage sustained to the speedometer display screen as a result of the accident.
5. The Motorcycle had sustained damages all around. Body parts that were found to have been damaged include its windshield, head cowl, speedometer gauge, side mirrors, top clamp, handlebars, right cowling, fuel tank, rear brake pedal bracket and exhaust pipe, 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 of the Motorcycle were recorded as follows:-



Zeneos 150/60 R17 (6mm)

Zeneos 110/70 R17 (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 both wheel rims of the Motorcycle. See photos 1 – 11 below.



**Photo 1** 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 windshield, head cowl, speedometer gauge, side mirrors, top clamp, handlebars, right cowling, fuel tank, rear brake pedal bracket and exhaust pipe, amongst others.



**Photo 2** shows a closer view of the right cowling which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



**Photo 3** shows a closer view of the head 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 4** shows a closer view of the cracked windshield the Motorcycle as a result of the accident (arrowed).





**Photo 5** shows a closer view of the speedometer gauge of the Motorcycle. The mileage of the Motorcycle at the time of our inspection was not recorded due to the damage sustained to the speedometer display screen as a result of the accident (circled).



**Photo 6** shows a closer view of the top clamp, side mirrors and handlebars of the Motorcycle. These parts were amongst the body parts of the Motorcycle which were damaged as a result of the accident.

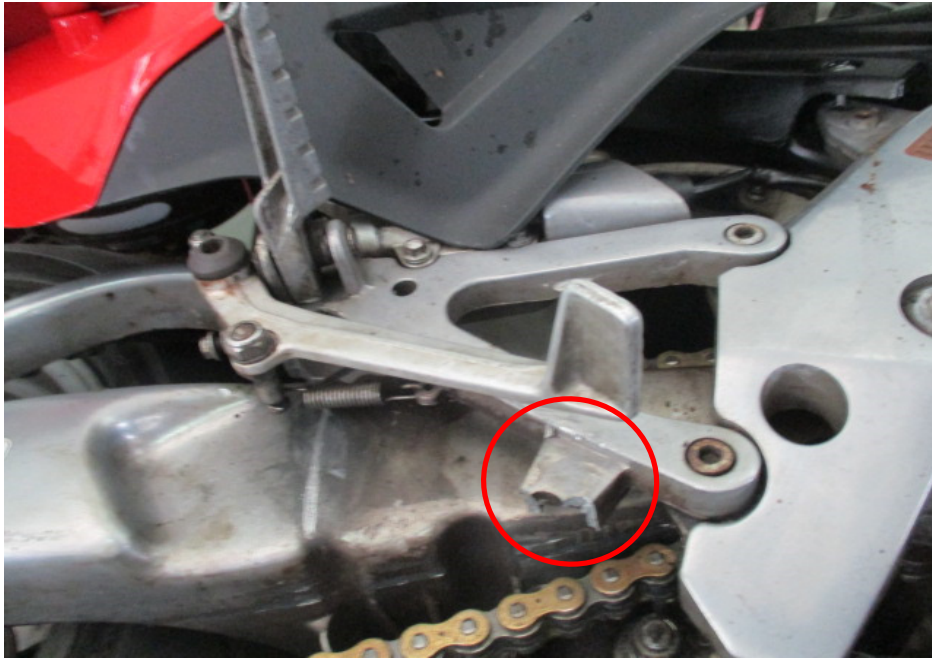


**Photo 7** shows a closer view of the petrol tank, which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



**Photo 8** shows a closer view of the dented exhaust pipe of the Motorcycle as a result of the accident (circled).





**Photo 9** shows a closer view of the broken rear brake pedal bracket of the Motorcycle as a result of the accident (circled).



**Photo 10** 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. 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 front tyre.



**Photo 11** 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 6mm. 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.

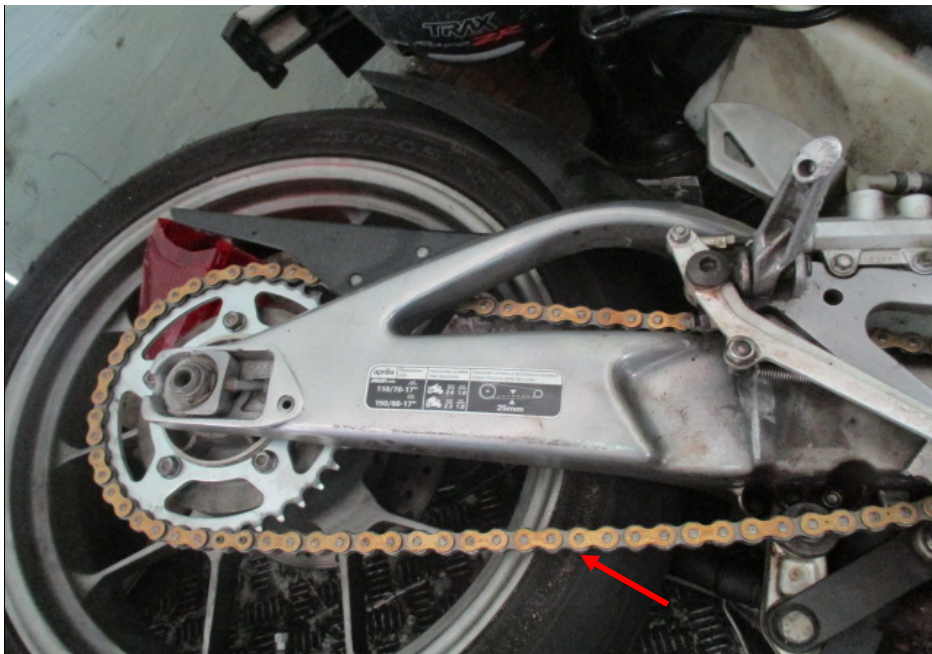
### **Engine & Drive Train**

9. Upon examination of the Motorcycle's right engine area, we had observed a crack at the bottom of the right engine cover which was a result of the accident. However there was no sign(s) or indication(s) of fluid leak observed 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 12 – 14 below.

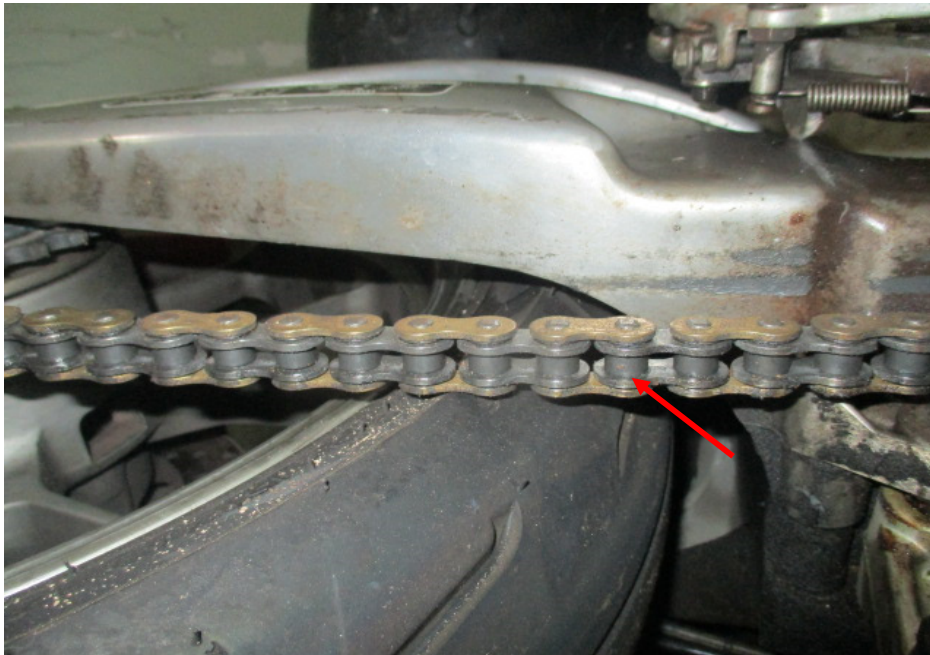




**Photo 12** shows the right side of the engine of the Motorcycle at the time of our inspection. We had observed a crack at the bottom of the right engine cover which was a result of the accident. However there was no sign(s) or indication(s) of fluid leak observed around the right engine area of the Motorcycle.



**Photo 13** 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 14** 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**

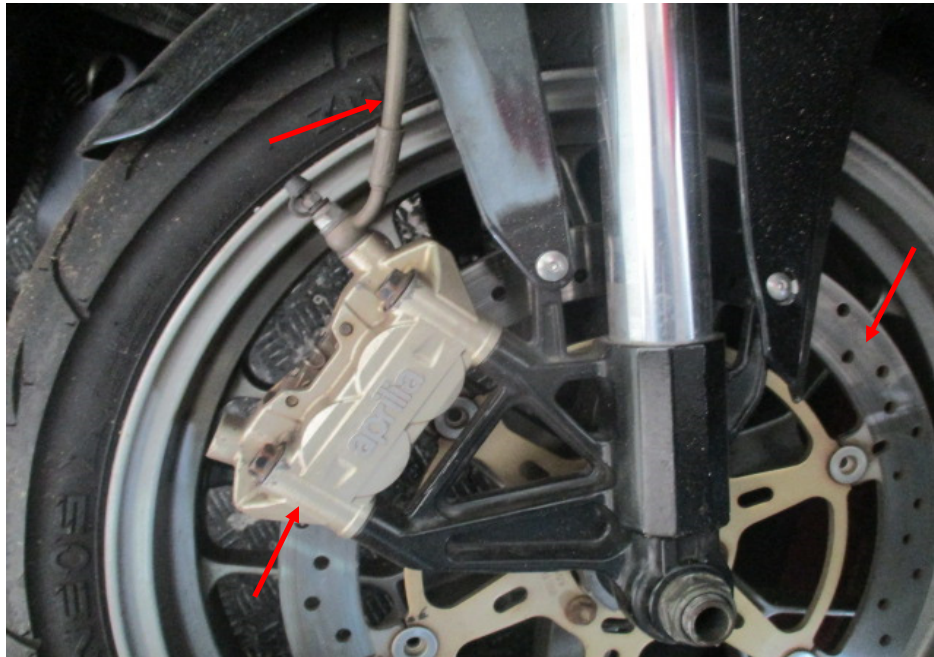
11. For this case, we were not able to conduct any test(s) on the steering system of the Motorcycle as the accident had rendered the Motorcycle immobile.
12. The braking system of the Motorcycle was observed to be of a full hydraulic type, where hydraulic (brake fluid) pressure controls the brake for 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, brake foot pedal 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. The brake fluid for the front brake and rear brake was also found to be of sufficiently level and without any contamination.

14. Static brake tests conducted on the Motorcycle had appear to indicate that the braking system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon pressing the brake lever as well as upon stepping on the rear brake pedal. This would indicate that there was no leakage of pressure/vacuum in the brake system.
15. For this case, we were not able to carry out any operational tests to the steering system and braking system of the Motorcycle as the accident 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 15 – 19 below.



**Photo 15** shows the front forks of the Motorcycle. The accident had rendered the Motorcycle immobile. We were hence not able to conduct any tests on the steering system of the Motorcycle.

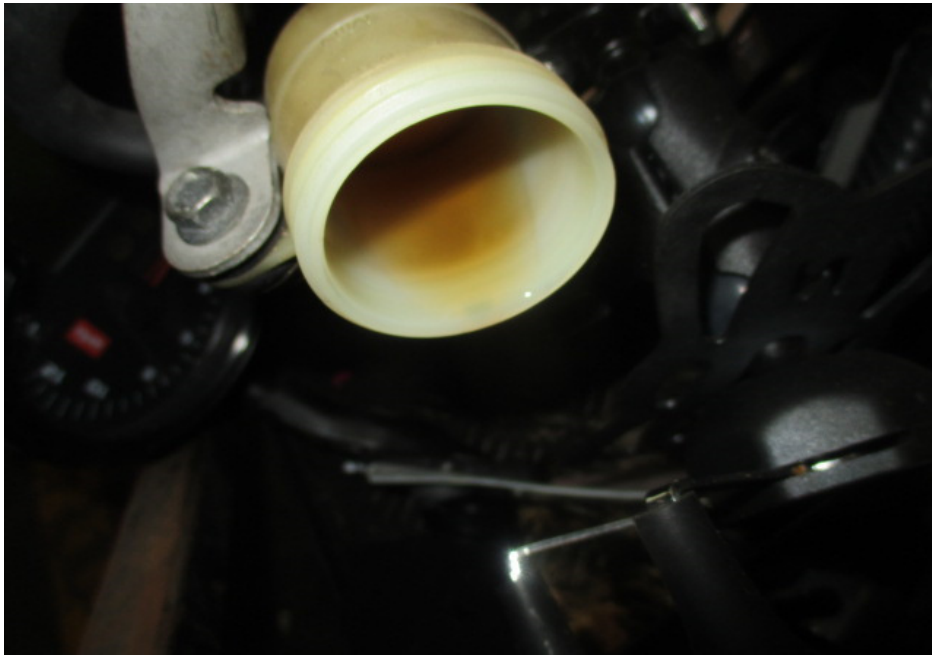




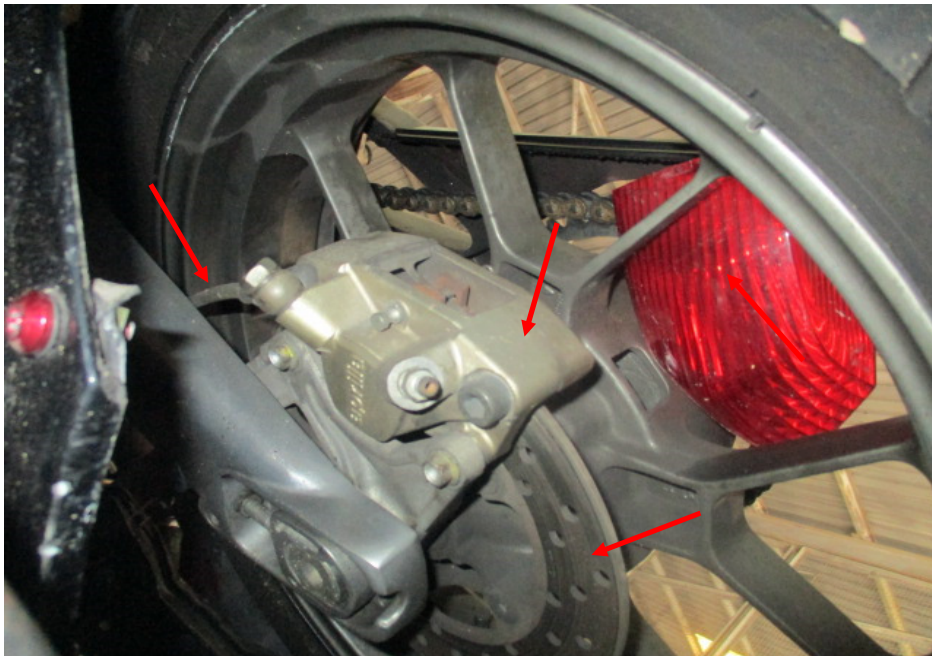
**Photo 16** shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.



**Photo 17** 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 18** shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be of sufficient level and without contamination for operational purposes.



**Photo 19** 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.

**Conclusion**

16. 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 as a result of the accident which had rendered the Motorcycle immobile.
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 and 6mm each.

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