

Your Ref: TP/IP/35181/2020
Our Ref : CI/TPD20011134/N

20 October 2020

Fatal Accident Investigation Team

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

INSPECTION REPORT OF MOTORCYCLE FBB 5193J

1. We refer to your request dated 18 September 2020 to conduct a physical inspection of a motorcycle bearing registration number FBB 5193J (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 18 August 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 19 October 2020 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.

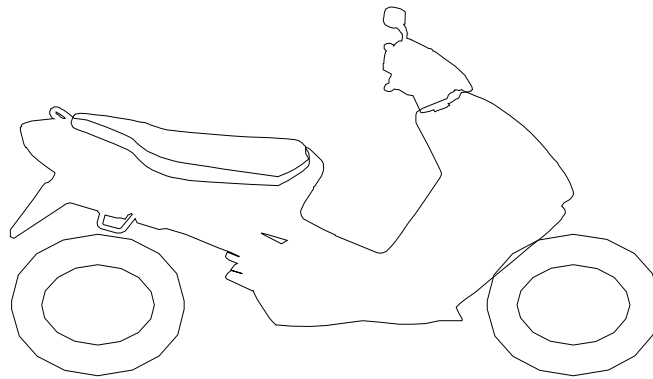
General Condition

4. The mileage of the Motorcycle at the time of our inspection was 62, 334km.
5. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its headlight assembly, front cowling, front mudguard, side cowlings, front brake lever, clutch lever, rear side covers and tail light assembly, amongst others.

Tyres and Wheel Rims

6. The condition of the front tyre 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 front tyre. The tread pattern of the front tyre was clearly visible. The front tyre was observed to be sufficiently inflated for vehicular operation.

7. We found the rear tyre to be deflated most likely as a result of the accident. However we did not observe any tear and/or burst mark(s) on the sidewalls as well as across the tread of the rear tyre. The tread pattern of the front tyre was clearly visible.



Michelin 80/90 - 17 (4mm)
(Deflated)

Dunlop 70/90 - 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 – 19 below.



Photo 1 shows the speedometer gauge of the Motorcycle. The mileage of the Motorcycle at the time of our inspection was 62, 334km (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 body. Amongst the body parts that were found to have been damaged include its headlight assembly, front cowlings, front mudguard, side cowlings, front brake lever, clutch lever, rear side covers and tail light assembly, amongst others.



Photo 4 shows a close up view of the head cowl and headlight assembly which were amongst the body parts at the front of the Motorcycle that had sustained damage as a result of the accident.



Photo 5 shows a closer view of the cracked front mudguard which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

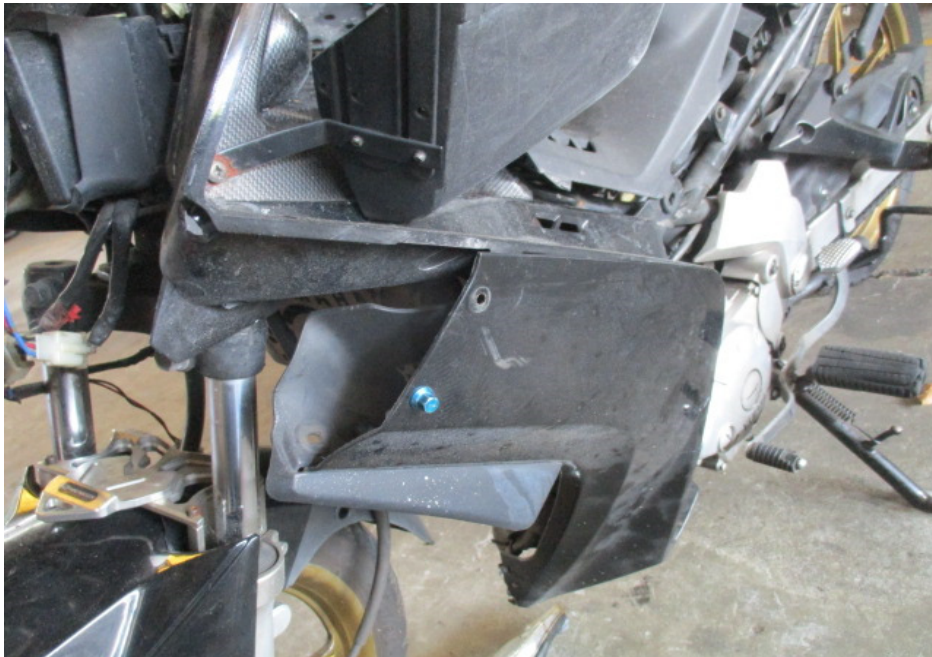


Photo 6 shows a closer view of the cracked left cowling of the Motorcycle as a result of the accident.

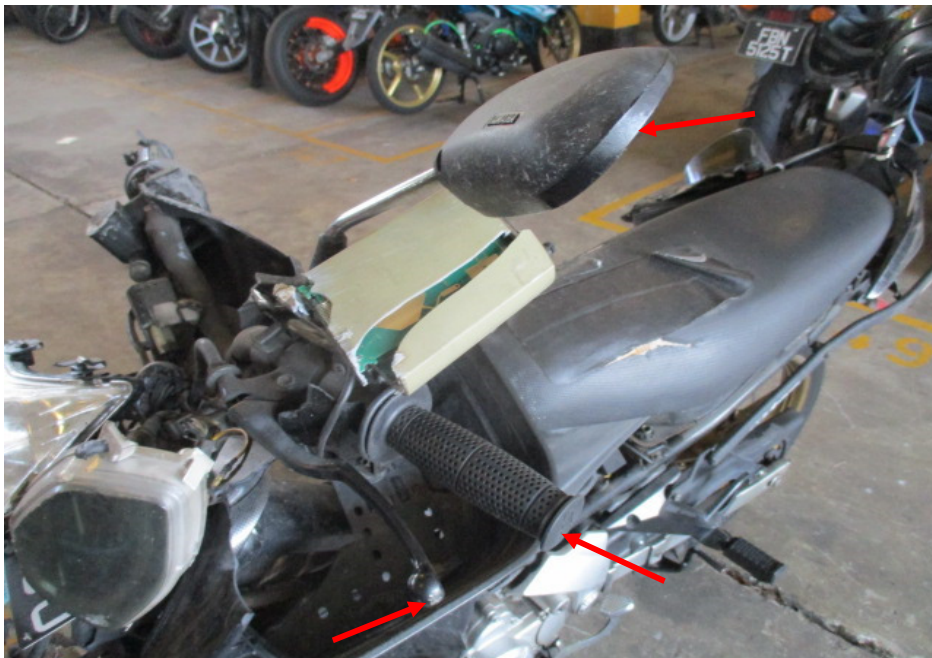


Photo 7 shows the left handlebar end, clutch lever and left side mirror (arrowed), which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

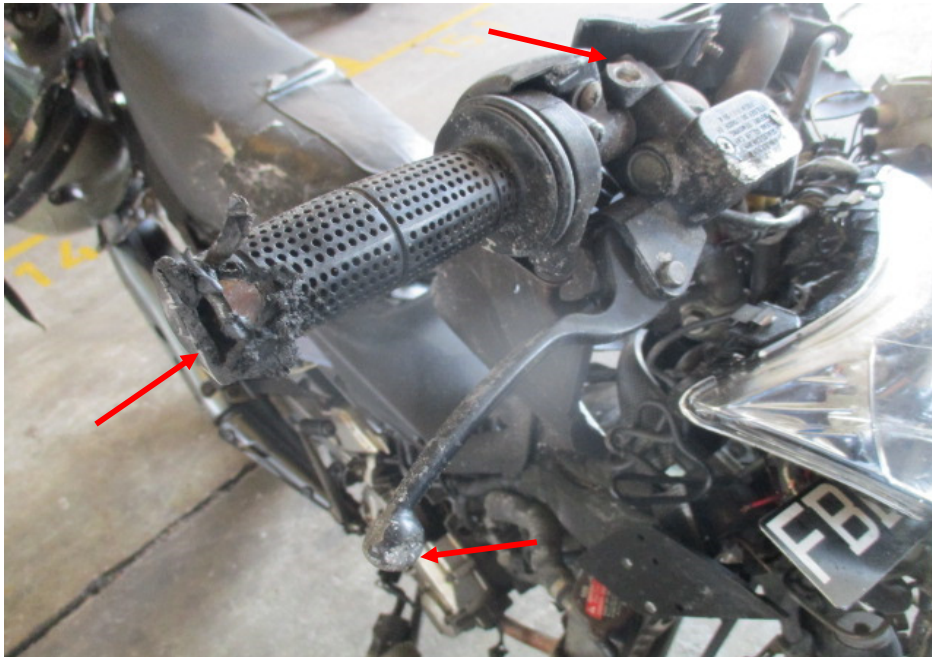


Photo 8 shows the right handlebar grip, missing right side mirror and front brake lever (arrowed), which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



Photo 9 shows a closer view of the cracked front basket of the Motorcycle as a result of the accident.



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



Photo 11 shows a closer view of the cracked right rear side cover of the Motorcycle as a result of the accident (arrowed).



Photo 12 shows a closer view of the right front footrest which was amongst the body parts of the Motorcycle that had sustained damages as a result of the accident (circled).



Photo 13 shows the left front footrest of the Motorcycle that had sustained damage as a result of the accident (circled).



Photo 14 shows the missing right cowling of the Motorcycle that had sustained damage as a result of the accident.



Photo 15 shows the exhaust muffler heat shield of the Motorcycle that had sustained damages of grazing nature as a result of the accident.



Photo 16 shows a closer view of the cracked tail light assembly of the Motorcycle as a result of the accident (arrowed).



Photo 17 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 18 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 rear tyre was observed to be deflated as a result of the accident. 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.



Photo 19 shows a closer view of the deflated rear tyre of the Motorcycle as a result of the accident (arrowed).

Engine & Drive Train

9. Upon examination of the Motorcycle's engine area, we had observed that the left engine related parts and components were intact with no visible damage. However the right engine cover of the Motorcycle was observed to be cracked as a result of the accident.
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 20 – 23 below.



Photo 20 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.

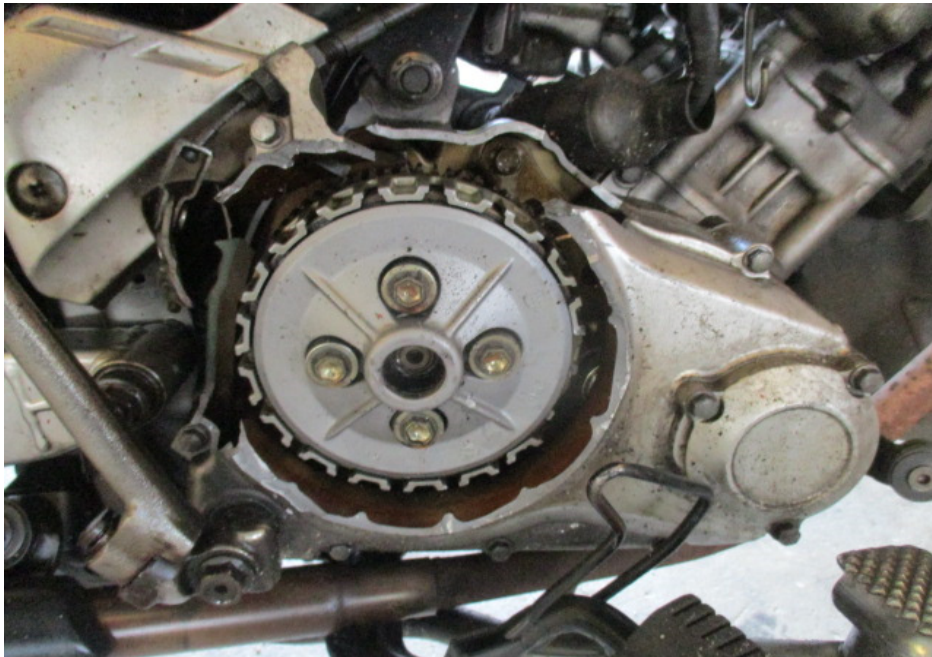


Photo 21 shows the right side of the engine of the Motorcycle at the time of our inspection. The right engine cover was observed to be cracked as a result of the accident.



Photo 22 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 23 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. There was also no visible tear or cut observed on the connecting hoses and cables. However we were unable to remove the front brake reservoir cover to examine whether the brake fluid was of sufficient level and without contamination for operational purposes due to a worn out screw.

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 24 – 30 below.

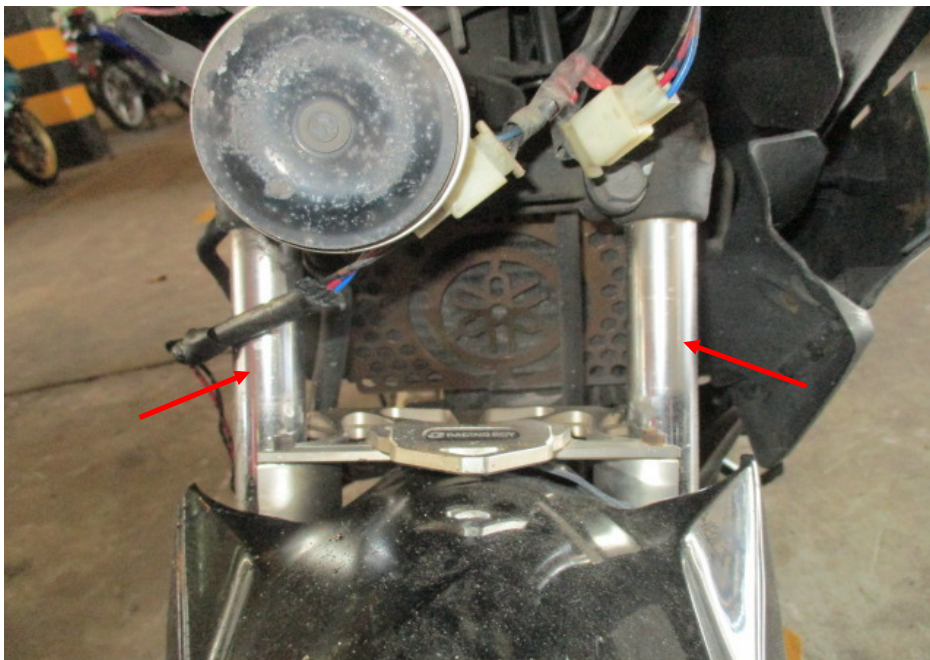


Photo 24 shows the front fork (arrowed) of the Motorcycle. The front fork and fork bracket of the Motorcycle were both found to be intact and undamaged. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play. The steering system of the Motorcycle was in serviceable condition at the time of our inspection.



Photo 25 shows the front wheel of the Motorcycle turned towards its full left. Turning the Motorcycle's handle bar towards the left 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 26 shows the front wheel of the Motorcycle turned towards its full right. Turning the Motorcycle's handle bar towards the 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 27 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 28 shows the brake fluid reservoir cover for the front brake of the Motorcycle. We were unable to examine whether the brake fluid was of sufficient level and without contamination for operational purposes due to the worn out screw (circled).

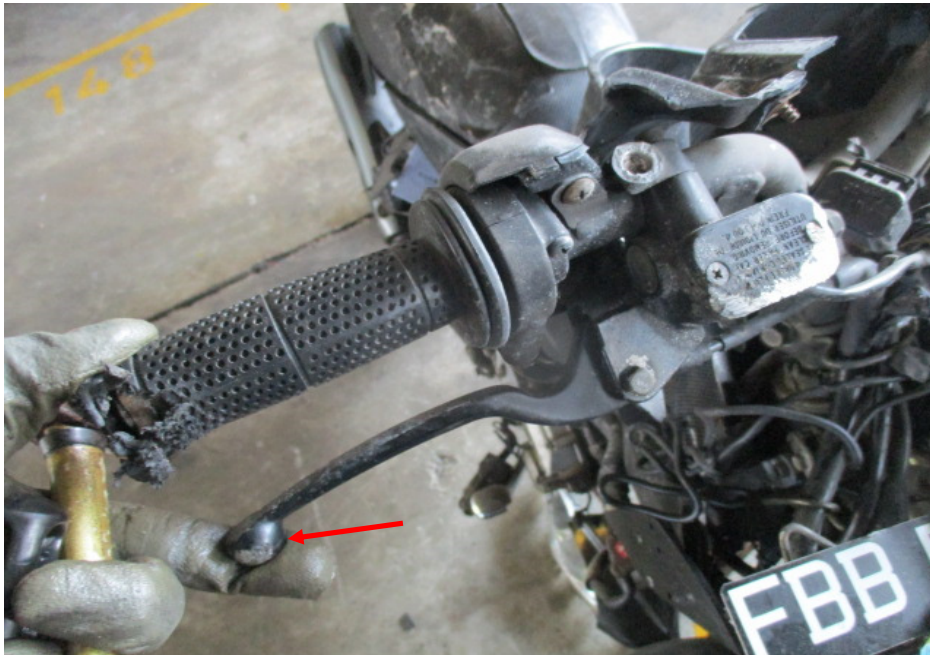


Photo 29 shows the front brake lever being depressed. There was some resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). This would indicate that there is no leakage of pressure/vacuum in the brake system.

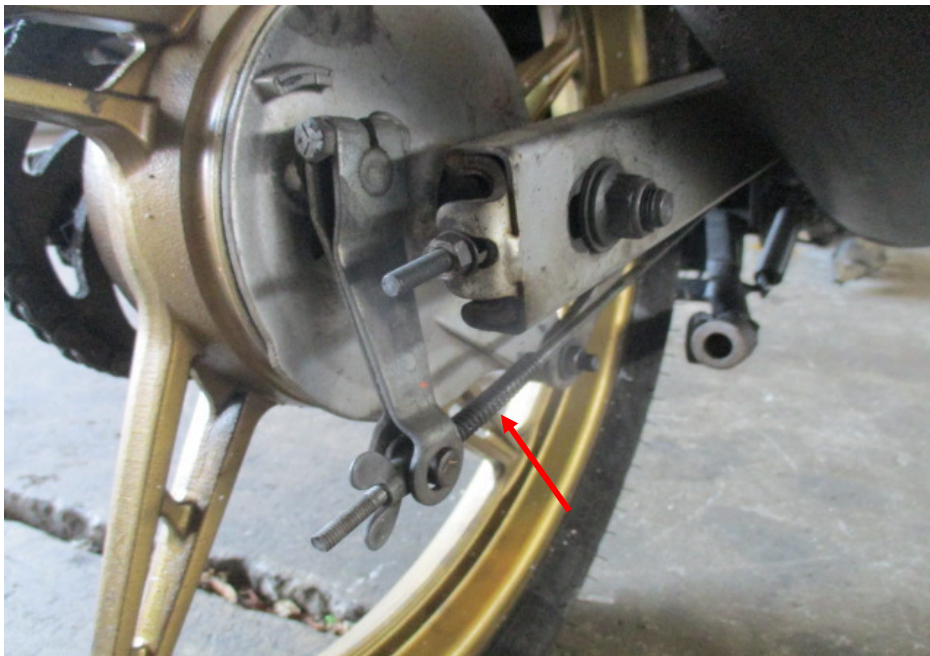


Photo 30 shows the rear wheel of the Motorcycle. The type of brake system for the rear wheel was of a mechanical type, controlled by the brake foot pedal of the Motorcycle. Our checks of the cable (arrowed), spring and drum which are all part of the components in the rear brake system of the Motorcycle 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 2 tyres of the Motorcycle were found to be in serviceable condition (which included the deflated rear tyre). 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 front tyre was sufficiently inflated for vehicular operation. Both tyres had remaining tread depth of approximately 4mm each.

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