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Our Ref : CI/TPD19020635/N

20 November 2019

Fatal Accident Investigation Team

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

INSPECTION REPORT OF MOTORCYCLE FBK 7189L

1. We refer to your request dated 22 October 2019 to conduct a physical inspection of a motorcycle bearing registration number FBK 7189L (herein referred to as “**Motorcycle**”), which was involved in a fatal road traffic accident on 4 September 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 20 November 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.

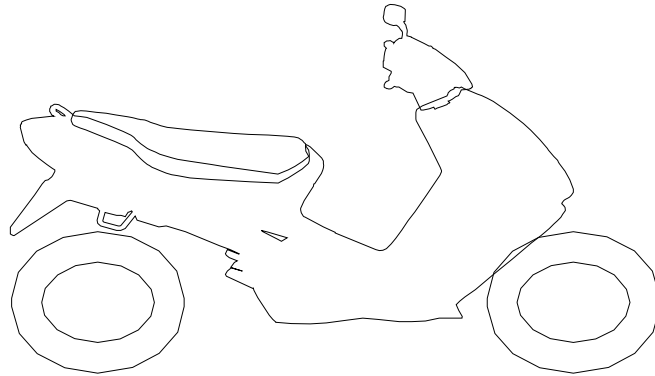
General Condition

4. The mileage of the Motorcycle at the time of our inspection was 16, 573km.
5. The Motorcycle was observed to have sustained damages along its frontal and left portion. The body parts that were found to have been damaged include its front number plate, headlight assembly, left front signal lamp, front mudguard, left cowling, clutch lever, gear shift rod, gear shift pedal, left front footrest and left front footrest bracket, 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 130/70 - 12 (4mm)

Michelin 120/70 - 12 (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 – 12 below.



Photo 1 shows the speedometer gauge of the Motorcycle where the mileage recorded at the time of our inspection was 16, 573km (circled).



Photo 2 shows a general view of the rear body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages along its frontal and left portion.



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 along its frontal and left portion. Amongst the body parts that were found to have been damaged include its front number plate, headlight assembly, left front signal lamp, front mudguard, left cowling, clutch lever, gear shift rod, gear shift pedal, left front footrest and left front footrest bracket, amongst others.



Photo 4 shows a closer view of the speedometer outer cover which was amongst the body parts at the front body of the Motorcycle that had sustained damage as a result of the accident.



Photo 5 shows a close up view of the headlight assembly (circled) and left front signal lamp (arrowed) which were 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 which was amongst the body parts at the front body of the Motorcycle that had sustained damage as a result of the accident (circled).



Photo 7 shows a closer view of the left cowling of the Motorcycle that had sustained damage as a result of the accident.



Photo 8 shows a closer view of the clutch lever (circled) and left handlebar end (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 broken gear shift rod, gear shift pedal, left front footrest and left front footrest bracket, which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.



Photo 10 shows the left rear side cover of the Motorcycle which was observed to be damaged as a result of the accident (circled).



Photo 11 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 4mm. 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 12 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 13 – 16 below.

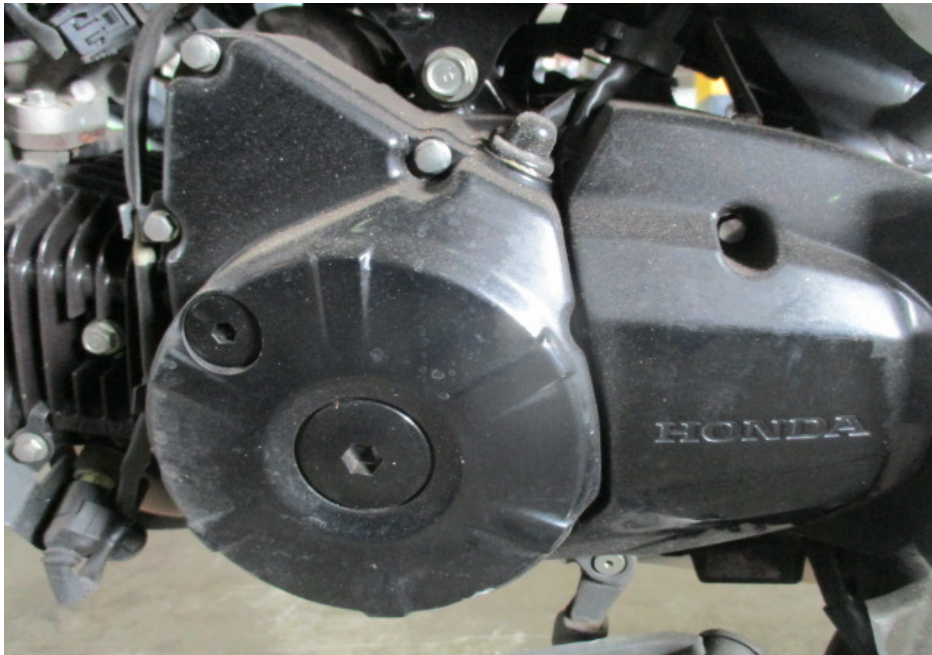


Photo 13 shows the left side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the left engine area of the Motorcycle.



Photo 14 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 15 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.

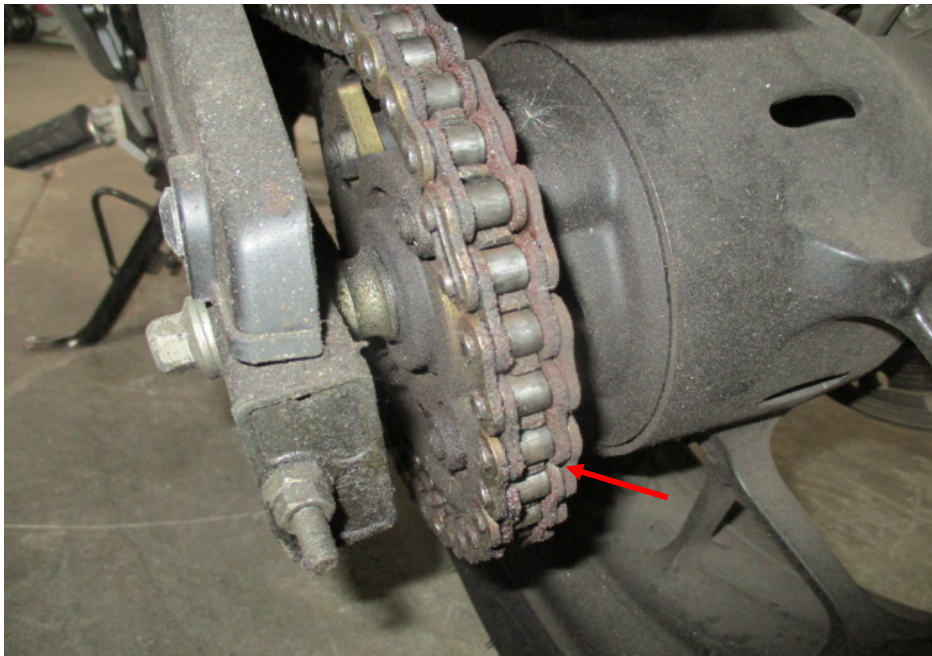


Photo 16 shows a closer view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

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 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 rear brake was found to be of sufficiently level and without any contamination. The brake fluid for the front brake was also found to be without any contamination however we had observed that it was of insufficient level for operational purposes.
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 upon stepping on the brake pedal. This would indicate that there was no leakage of pressure/vacuum in the brake system.
15. 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.

16. In general, the observations gathered during the brake test had indicated that the braking system of the Motorcycle was in serviceable condition. See photos 17 – 23 below.



Photo 17 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 18 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 19 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 20 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 21 shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be without contamination. However it was found to be of insufficient level for operational purposes.



Photo 22 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 23 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

17. 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.
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 4mm each.

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