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Your Ref: TP/IP/00007/2022 13 May 2022
Our Ref : CI/TPD22002091/N

Fatal Accident Investigation Team
Traffic Police Department
Singapore Police Force
10 Ubi Avenue 3
Singapore 408865

INSPECTION REPORT OF MOTORCYCLE FBL 4923Z

1. We refer to your request dated 10 January 2022 to conduct a physical inspection of a motorcycle bearing registration number FBL 4923Z (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 31 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 9 May 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

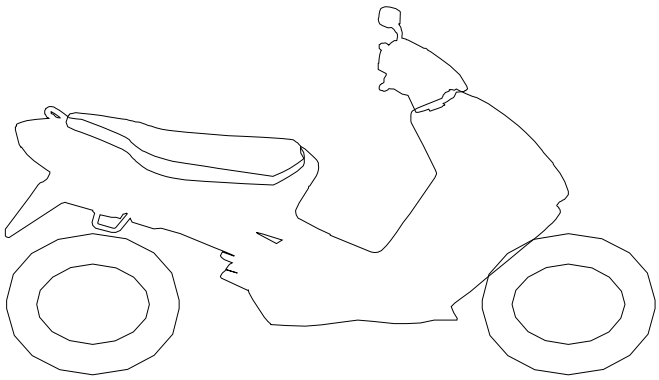
4. The mileage of the Motorcycle could not be recorded at the time of our inspection due to damages sustained to the speedometer gauge.

5. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its speedometer gauge, headlight assembly, front mudguard, front wheel rim, side cowlings, handlebars, side mirrors, front brake lever, petrol tank, rear brake pedal, right front footrest, right rear side cover and top box rack, 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:-



Pirelli 140/70 - 17 (4mm)

Pirelli 110/70 - 17 (3mm)

8. At the time of our inspection, we did not observe any visible damage on the rear wheel rim of the Motorcycle. We had however found some relatively minor marks of grazing nature on the edges of the front wheel rim, at the right side of the Motorcycle. See photos 1 – 16 below.

Photo 1 shows the damages sustained to the speedometer gauge of the Motorcycle as a result of the accident. Hence the mileage could not be recorded at the time of our inspection.

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 right body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around.

Photo 4 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.

Photo 5 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 all around. Amongst the body parts that were found to have been damaged include its speedometer gauge, headlight assembly, front mudguard, front wheel rim, side cowlings, handlebars, side mirrors, front brake lever, petrol tank, rear brake pedal, right front footrest, right rear side cover and top box rack, amongst others.

Photo 6 shows a closer view of the missing headlight assembly and head cowling which were 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 close up view of the cracked front mudguard of the Motorcycle as a result of the accident.

Photo 8 shows a closer view of the dented petrol tank of the Motorcycle as a result of the accident (arrowed).

Photo 9 shows a closer view of the handlebars, side mirrors, front brake lever and side mirrors (arrowed) which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

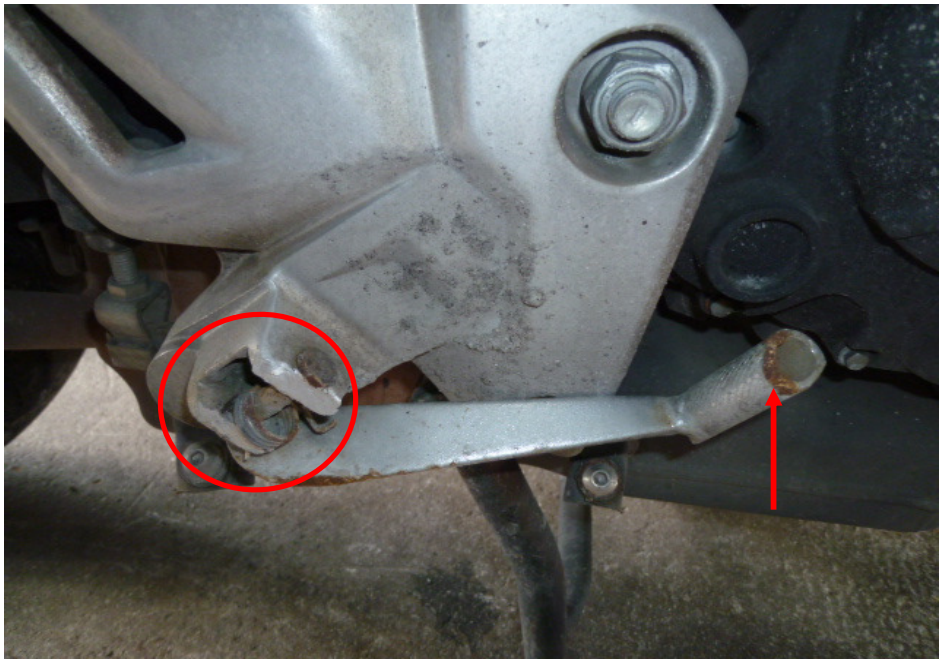


Photo 10 shows a closer view of the bent rear brake pedal (arrowed) and broken right front footrest (circled) which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 11 shows the right rear side cover of the Motorcycle which was amongst the body parts of the Motorcycle that had sustained damages of grazing nature as a result of the accident (circled).

Photo 12 shows a closer view of the cracked right cowling of the Motorcycle as a result of the accident.

Photo 13 shows a closer view of the deformed top box rack of the Motorcycle 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 front wheel rim of the Motorcycle at the time of our inspection. Some relatively minor marks of grazing nature were observed on the edges of the front wheel rim (circled), at the right side of the Motorcycle.

Photo 16 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 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 train of the Motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. See photos 17 – 20 below.

Photo 17 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.

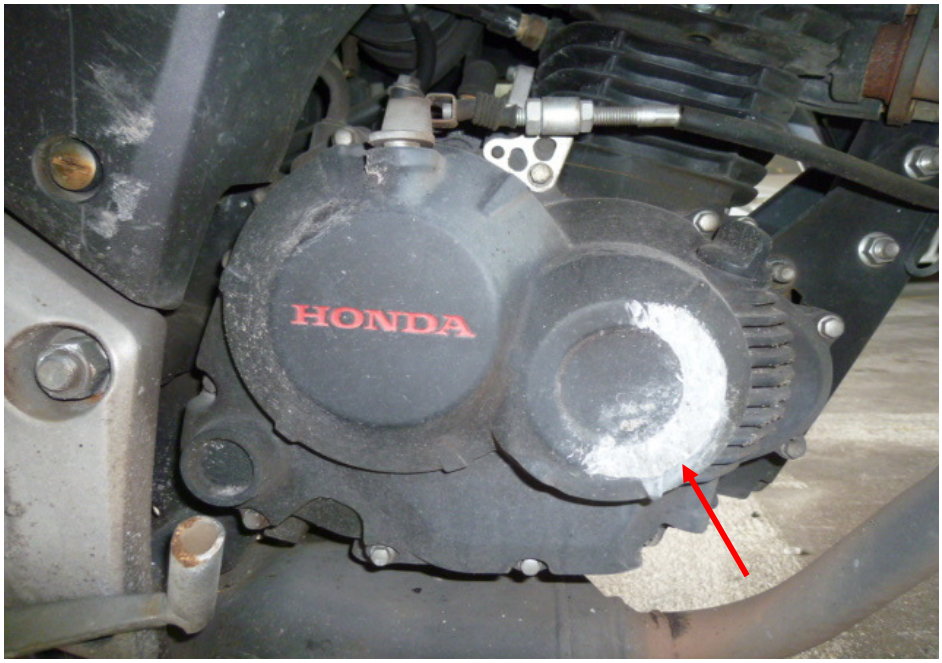


Photo 18 shows the right side of the engine of the Motorcycle at the time of our inspection. The various right engine components had sustained damage of grazing nature as a result of the accident (arrowed) however the engine components were still intact. There was also no fluid leak and/or fluid stain found around the right engine area of the Motorcycle.

Photo 19 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 20 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 forks were 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, rear brake caliper, 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 sufficient level for operational purposes and without any contamination.

14. However we observed that the front brake caliper had sustained damages of grazing natures as a result of the accident. We also observed that the front brake clamp had broken off as a result of the accident. The front brake reservoir was also observed to be empty due to damages sustained as a result of the accident. Hence static as well as operational brake tests could not be conducted on the Motorcycle's front braking system. We were unable to determine if there was any leakage of pressure/vacuum in the front braking system.

15. Static brake tests conducted on the Motorcycle had appear to indicate that the rear braking system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon stepping on the brake pedal. This would indicate that there was no leakage of pressure/vacuum in the rear brake system.

16. We subsequently carried out an operational test of the Motorcycle's rear braking system. This was done by manually pushing the Motorcycle forward and backward, simulating the Motorcycle in motion, and thereafter engaging the rear brake of the Motorcycle. At the end of the short operational test, we did not observe any abnormal behaviour of the Motorcycle's rear braking system. The rear wheel of the Motorcycle was able to stop rotating immediately upon stepping on the brake pedal. See photos 21 – 27 below.

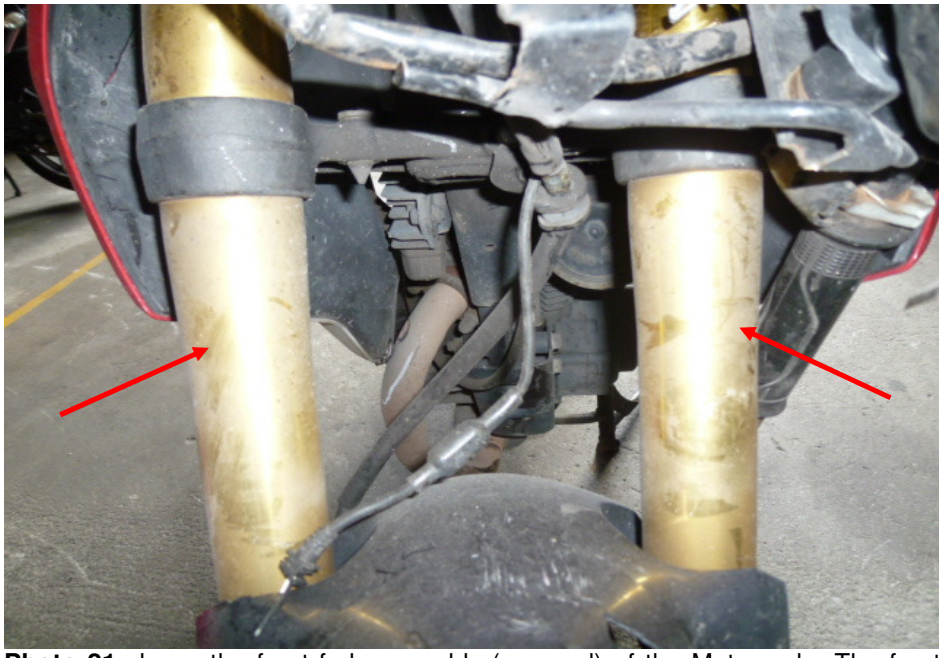


Photo 21 shows the front fork assembly (arrowed) of the Motorcycle. The front fork and fork bracket of the Motorcycle were both found to be intact and undamaged. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. The steering system of the Motorcycle was in serviceable condition at the time of our inspection.

Photo 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 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.

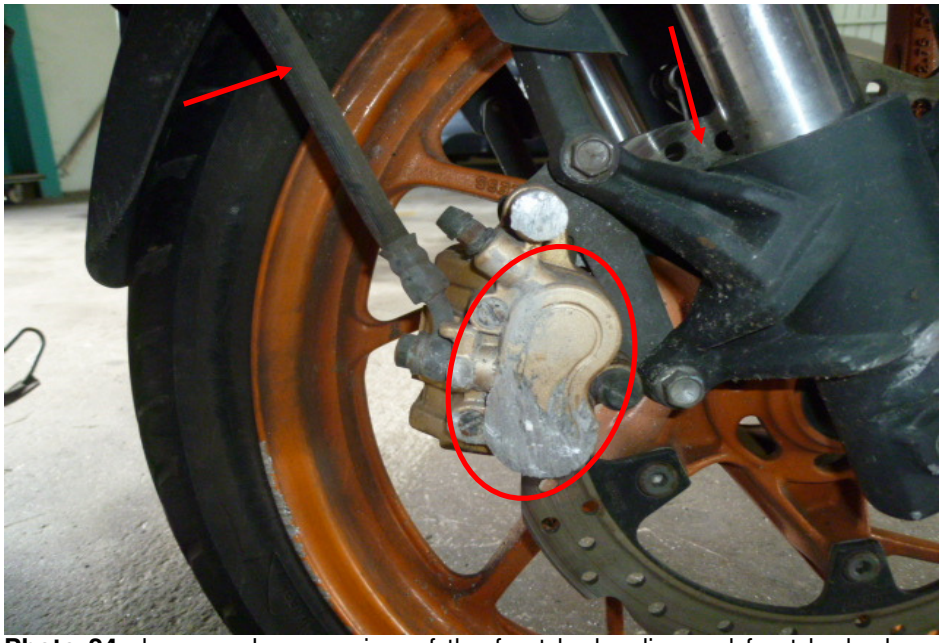


Photo 24 shows a close up view of the front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed. However the front brake caliper had sustained damages of grazing nature as a result of the accident (circled).

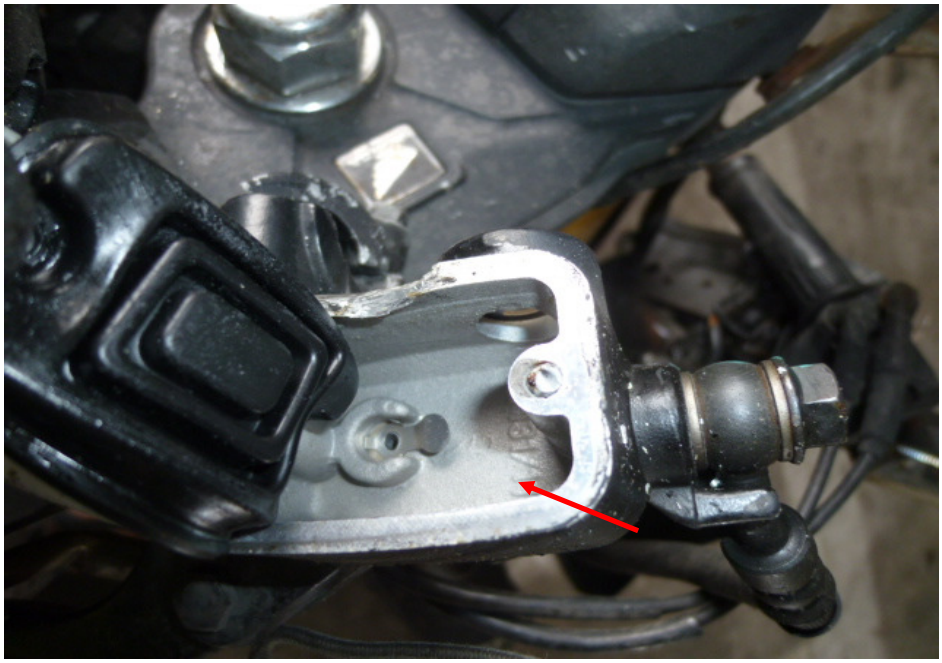


Photo 25 shows the brake fluid reservoir for the front brake of the Motorcycle. The front brake reservoir was observed to be empty (arrowed).

Photo 26 shows the front brake reservoir. We were unable to depress the front brake lever as the front brake clamp had broken off as a result of the accident (arrowed). Hence static as well as operational brake tests could not be conducted on the Motorcycle's front braking system. We were unable to determine if there was any leakage of pressure/vacuum in the front braking system.

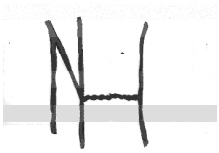
Photo 27 shows a close up view of the rear brake caliper, rear brake disc and rear brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic rear brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

Photo 22 shows the brake fluid reservoir for the rear brake of the Motorcycle. The brake fluid was observed to be of sufficient level for operational purposes and without contamination.

Conclusion

17. 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. Its front braking system was damaged as a result of the accident. The steering system and rear braking system of the Motorcycle were observed to be in serviceable condition.

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 and 4mm.



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