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Your Ref: TP/IP/04019/2020 7 July 2020
Our Ref : CI/TPD20001844/N

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FX 5957J

1. We refer to your request on 3 February 2020 to conduct a physical inspection of a motorcycle bearing registration number FX 5957J (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 21 January 2020.

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 7 July 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.

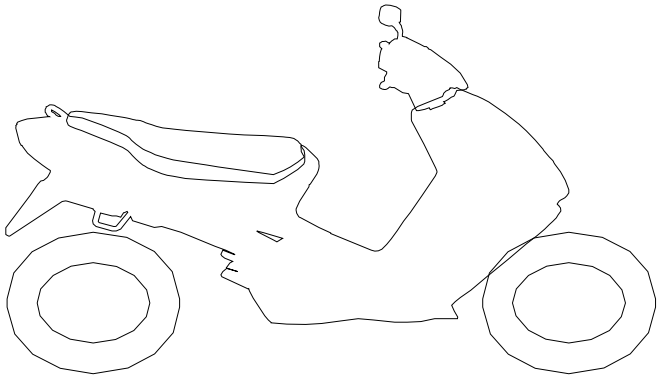
General Condition

4. The mileage of the Motorcycle was not recorded at the time of our inspection despite several attempts to jump start the battery.

5. The Motorcycle had sustained damages all around. Body parts that were found to have been damaged include its front wheel, front mudguard, side mirrors, handlebar ends, front brake lever, side cowlings, left rear side cover, rear brake pedal, gear shift pedal, left front footrest, right front footrest, seat, exhaust muffler and exhaust muffler heat shield, 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. The tyre brand, tyre size and remaining tread depth of the 2 tyres of the Motorcycle were recorded as follows:-



Dunlop 80/90 R17 (3mm) Dunlop 80/90 R17 (4mm)

7. The 2 tyres were wrapped around alloy wheel rims. At the time of our inspection, we did not observe any visible damage on the rear wheel rim of the Motorcycle. However we did observe that the front wheel rim was broken as a result of the accident. See photos 1 – 16 below.

Photo 1 shows a general view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle had sustained damages all around. The mileage of the Motorcycle was not recorded at the time of our inspection despite several attempts to jump start the battery.

Photo 2 shows a general view of the right body of the Motorcycle at the time of our inspection. Body parts that were found to have been damaged include its front wheel, front mudguard, side mirrors, handlebar ends, front brake lever, side cowlings, left rear side cover, rear brake pedal, gear shift pedal, left front footrest, right front footrest, seat, exhaust muffler and exhaust muffler heat shield, amongst others.

Photo 3 shows a general view of the rear 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 front wheel, front mudguard, side mirrors, handlebar ends, front brake lever, side cowlings, left rear side cover, rear brake pedal, gear shift pedal, left front footrest, right front footrest, seat, exhaust muffler and exhaust muffler heat shield, amongst others.

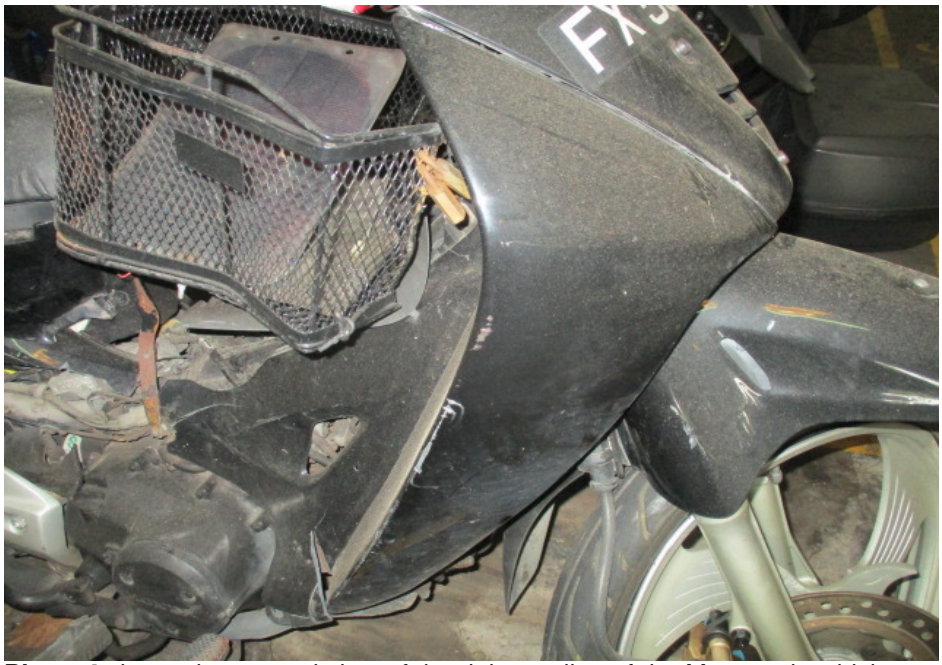


Photo 4 shows the general view of the right cowling of the Motorcycle which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 5 shows the general view of the left cowling of the Motorcycle which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 6 shows the cracked right side cover of the Motorcycle as a result of the accident (arrowed).

Photo 7 shows a close up view of the left handlebar end as well as the left side mirror (circled) of the Motorcycle. These parts were amongst the body parts of the Motorcycle which were damaged as a result of the accident.

Photo 8 shows a close up view of the right handlebar end and front brake lever (arrowed) as well as the right side mirror (circled) of the Motorcycle. These parts were amongst the body parts of the Motorcycle which were damaged as a result of the accident.

Photo 9 shows a close up view of the cracked front mudguard of the Motorcycle as a result of the accident (arrowed).

Photo 10 shows a closer view of the seat and left rear side cover, which was amongst the body parts of the Motorcycle that had sustained damages of grazing nature as a result of the accident

Photo 11 shows the damaged rear brake pedal and right front footrest which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 12 shows the damaged gear shift pedal and left front footrest which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

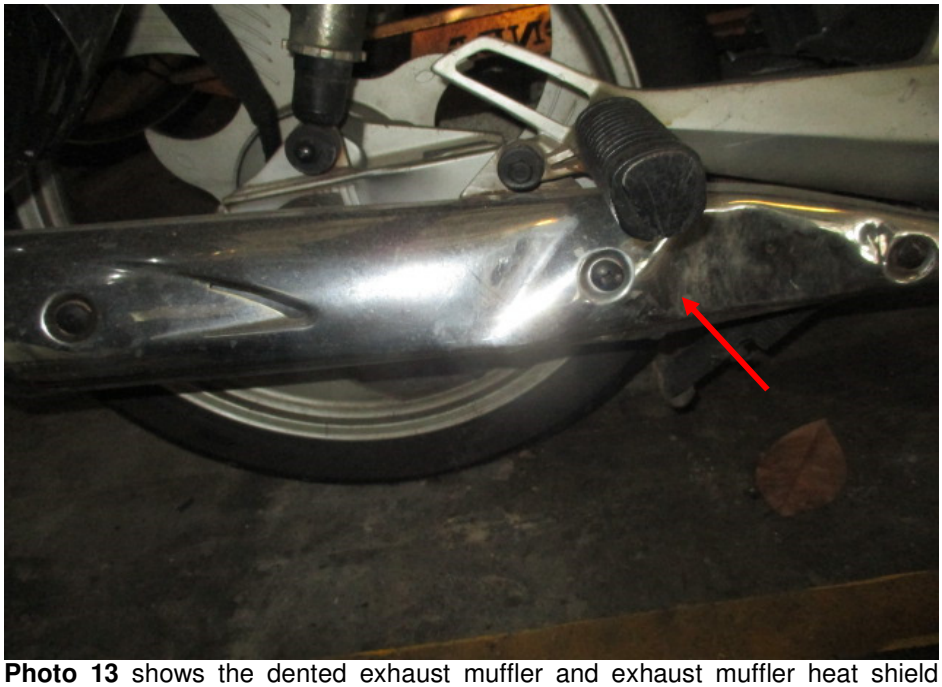


Photo 13 shows the dented exhaust muffler and exhaust muffler heat shield (arrowed) of the Motorcycle as a result of the accident.

Photo 14 shows a closer view of the broken front wheel rim of the Motorcycle as a result of the accident (arrowed).

Photo 15 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. 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 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 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

8. 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.

9. The gear chain of the Motorcycle, which rotates the rear wheel of the Motorcycle, was found to be in serviceable condition and without any misalignment. It was also adequately lubricated for operating purposes. See photos 17 - 20 below.

Photo 17 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 18 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.

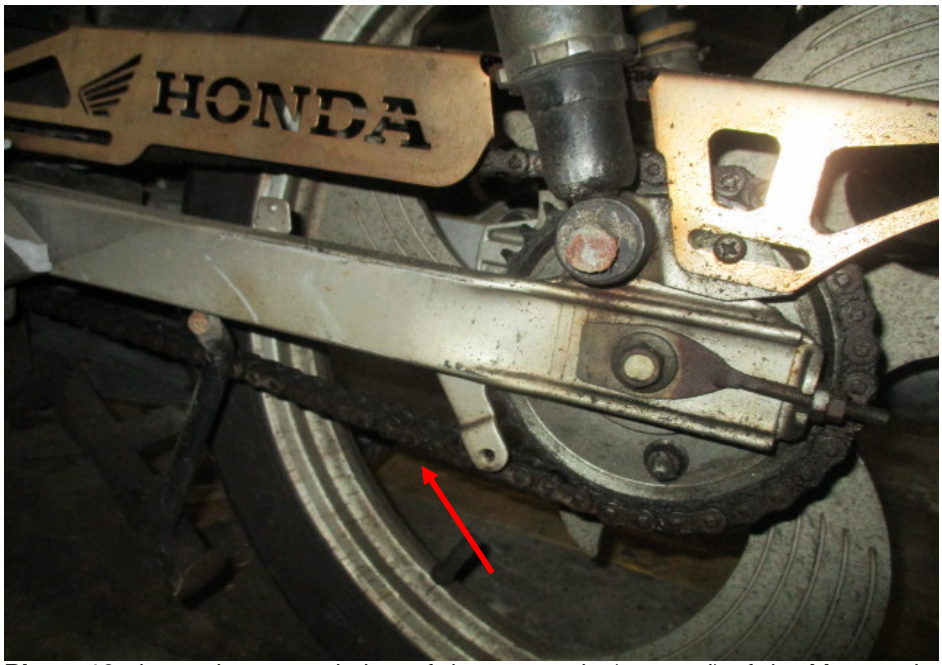


Photo 19 shows the general view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

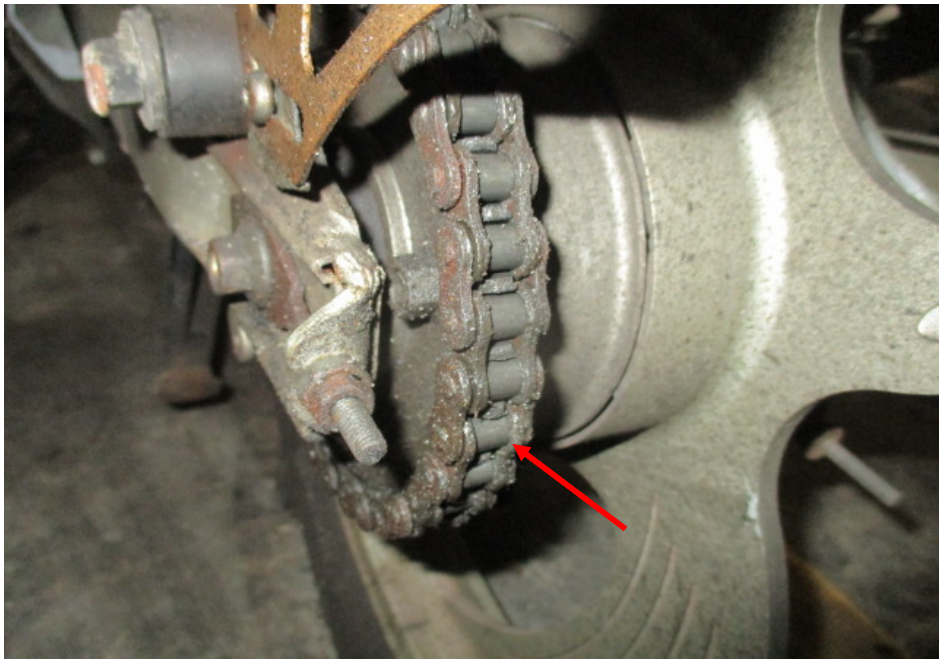


Photo 20 shows a closer view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

Steering System & Braking System

10. For this case, we were not able to conduct any test(s) on the steering system of the Motorcycle due to the damage to its front portion. The front wheel was found to be misalignment as a result of the accident.

11. 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 visible tear or cut observed on the connecting hoses and cables. The brake fluid for the front brake was also found to be of sufficiently level for operating purposes and without any contamination.

12. 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.

13. For this case, we were not able to carry out any operational tests to the steering system and front braking system of the Motorcycle due to the severe damage to its frontal portion, which 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 21 – 25 below.

Photo 21 shows the front wheel of the Motorcycle. The front wheel (arrowed) was observed to be misaligned as a result of the accident. We were hence not able to conduct any tests on the steering system of the Motorcycle.

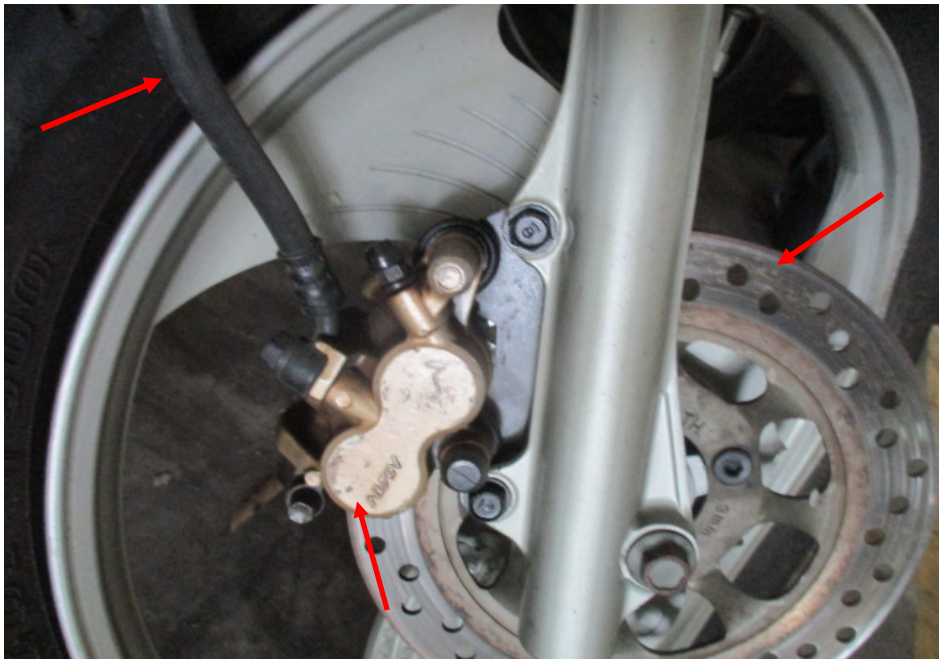


Photo 22 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

Photo 23 shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be of sufficient level for operational purposes and without contamination for.

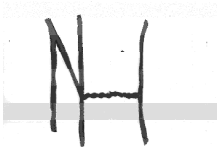
Photo 24 shows the front brake lever being depressed. There was some resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). This would indicate that there is no leakage of pressure/vacuum in the brake system.

Photo 25 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

14. 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 steering system was damaged as a result of the accident. Its braking system was observed to be in serviceable condition.

15. 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 and 3mm.



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