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Your Ref: TP/IP/18686/2022 6 October 2022
Our Ref : CI/TPD22008681/N

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBE 5989P

1. We refer to your request on 16 August 2022 to conduct a physical inspection of a motorcycle bearing registration number FBE 5989P (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 19 July 2022.

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 6 October 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

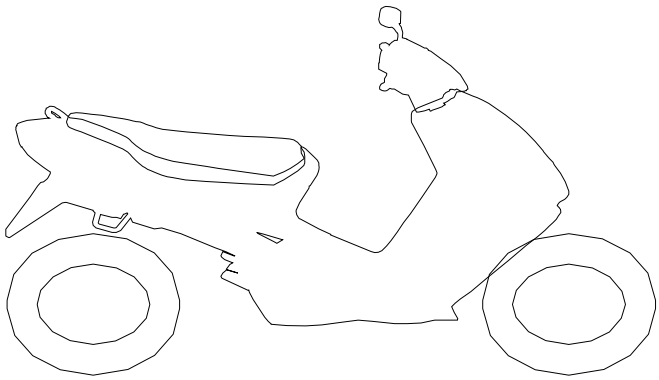
4. The mileage of the Motorcycle could not be recorded at the time of our inspection due to the damages sustained to the speedometer gauge.

5. The Motorcycle had sustained damages all around. Body parts that were found to have been damaged include its headlight assembly, front cowling, steering stem, front mudguard, handlebar, side mirrors, side cowlings, front footrests, front basket, rear side covers and exhaust muffler, 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:-



Dunlop 90/80 R17 (2mm) Dunlop 70/90 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 the front and rear wheel rim of the Motorcycle. See photos 1 – 19 below.

Photo 1 shows the mileage of the Motorcycle which could not be recorded at the time of our inspection due to the damages sustained to the speedometer gauge.

Photo 2 shows a general view of the rear portion of the Motorcycle at the time of our inspection. The Motorcycle had sustained damages all around.

Photo 3 shows a general view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle had 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 had sustained damages all around. Body parts that were found to have been damaged include its headlight assembly, front cowling, steering stem, front mudguard, handlebar, side mirrors, side cowlings, front footrests, front basket, rear side covers and exhaust muffler, amongst others.

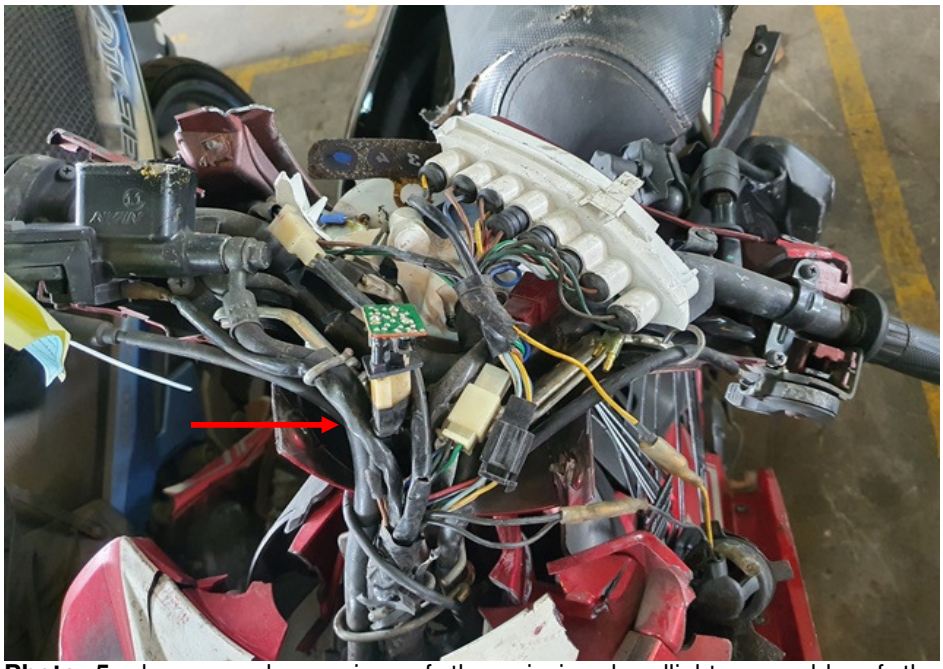


Photo 5 shows a closer view of the missing headlight assembly of the Motorcycle as a result of the accident (arrowed).

Photo 6 shows the cracked front cowling of the Motorcycle at the time of our inspection (arrowed).

Photo 7 shows a closer view of the front mudguard, 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 handlebar, handlebar ends, side mirrors, clutch lever and front brake lever 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 front basket and centre inner panel of the Motorcycle (arrowed). These parts were amongst the body parts of the Motorcycle which were damaged as a result of the accident.

Photo 10 shows a closer view of the cracked left cowling which was amongst the body parts at the front body of the Motorcycle that had sustained damages as a result of the accident (arrowed).

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

Photo 12 shows a closer view of the cracked left rear side cover which was amongst the body parts of the Motorcycle as a result of the accident (arrowed).

Photo 13 shows a closer view of the cracked right rear side cover which was amongst the body parts of the Motorcycle as a result of the accident (arrowed).

Photo 14 shows a closer view of the gear shift pedal (arrowed) and right front footrest (circled) which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 15 shows a closer view of the rear brake pedal (circled) and right front footrest (arrowed) which were amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 16 shows a closer view of the left pillion grab rail which was amongst the body parts of the Motorcycle that had sustained damages of grazing nature as a result of the accident (arrowed).

Photo 17 shows a closer view of the dislodged exhaust muffler of the Motorcycle as a result of the accident (arrowed).

Photo 18 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 3mm. 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 19 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 2mm. 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 train, which rotates the rear wheel 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 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 22 shows the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes. The gear train rotates the rear wheel of the Motorcycle.

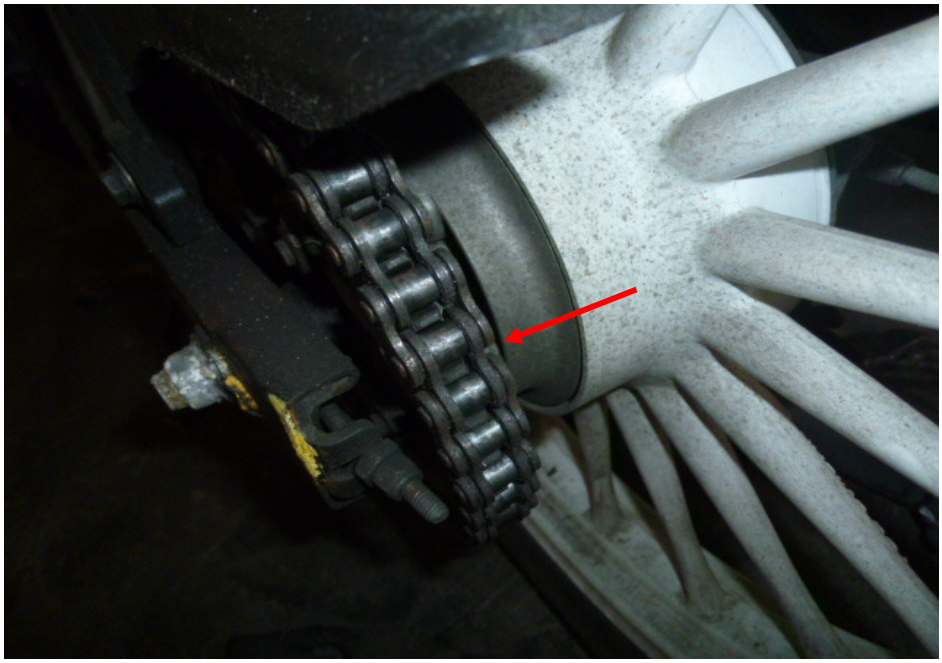


Photo 23 shows the closer view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

Steering System & Braking System

11. 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 steering stem. The steering stem was observed to be broken as a result of the accident.

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. However the front brake fluid reservoir was observed to be empty. There was no visible tear or cut observed on the connecting hoses and cables.

13. Static brake tests conducted on the Motorcycle had appear to indicate that the front braking system of the Motorcycle was not in serviceable condition. There was no resistance felt (spongy like feel) upon pressing the brake lever. This would indicate that there may be a leakage of pressure/vacuum in the front braking system.

14. For this case, we were not able to carry out any operational tests to the steering system and braking system of the Motorcycle due to the damage of its steering stem, 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 24 – 28 below.

Photo 24 shows the steering stem of the Motorcycle. The steering stem was observed to be broken as a result of the accident (arrowed). We were hence not able to conduct any tests on the steering system of the Motorcycle.

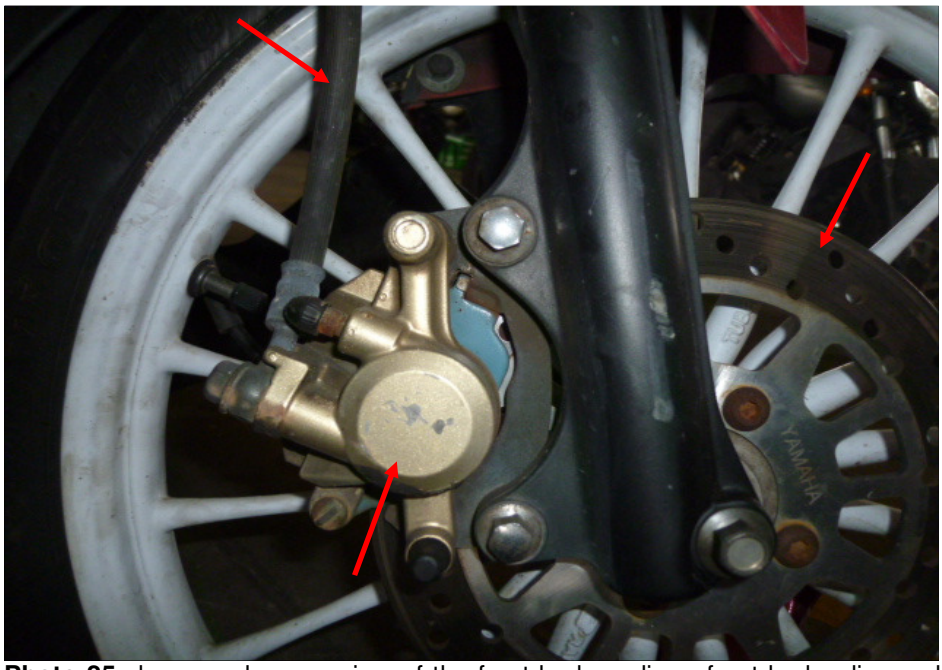


Photo 25 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

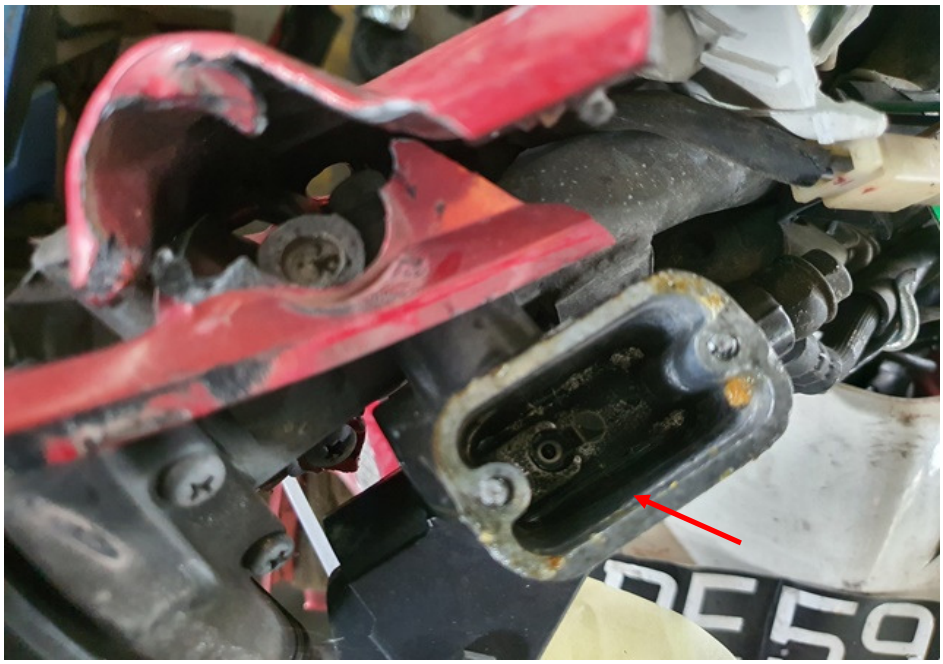


Photo 26 shows the brake fluid reservoir for the front brake of the Motorcycle. The front brake reservoir was observed to be empty (arrowed).

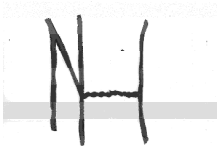
Photo 27 shows the front brake lever being depressed. There was no resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). This would indicate that there may be a leakage of pressure/vacuum in the front brake system.

Photo 28 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. 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. The front braking system of the Motorcycle was observed not to be in serviceable condition. The rear braking system of the Motorcycle was observed to be in serviceable condition.

16. 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. Both tyres were sufficiently inflated for vehicular operation. Both tyres had remaining tread depth of approximately 3mm and 2mm.



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