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Your Ref: TP/IP/64127/2018 07th March 2019
Our Ref :CI/TPD18022209/Z

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBG 3870A

1. We refer to your request dated 28th November 2018 to conduct a physical inspection of a motorcycle bearing registration number FBG 3870A (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 20th November 2018.

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 24th December 2018 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 not recorded at time of our inspection due to the unavailability of the ignition key.

5. The Motorcycle was observed to have sustained minor damages at the frontal & right portion. The body parts that were found to have been damaged include its right hand side fairing, right handle, right hand brake lever, right wing mirror, right side headlamp, right rider & pillion foot rest and front mud guard amongst others as a result of the accident. See photo 1 to 7 below.

Photo 1 shows a close-up view of the mileage of the Motorcycle not recorded at time of our inspection due to the unavailability of the ignition key.

Photo 2 shows a general view of the front body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively minor damages at time of inspection. The damages were observed to be confined to its front & right portion of the Motorcycle.

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 relatively minor damages on the right side fairing, foot rest, handle, mud guard & brake lever at time of our inspection.

Photo 4 shows a general view of the rear body of the Motorcycle at the time of our inspection. The Motorcycle was observed to be in good condition unaffected by the accident.

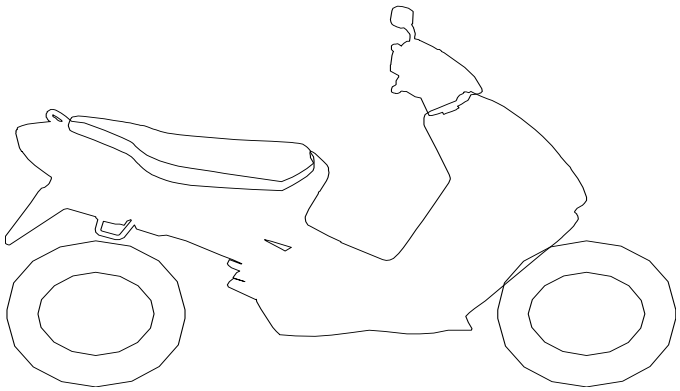
Photo 5 shows a general view of the left body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively minor damages on the left side fairing at time of our inspection.

Photo 6 shows a closer view of the right damaged components of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained with relatively minor damages due to the accident collision. (Circled)

Photo 7 shows a closer view of the right rider's foot rest of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained with relatively minor damages due to the accident collision. (Circled)

Tyres and Wheel Rims

6. The condition of the Motorcycle's 2 tyres was observed to be in serviceable condition. The tread pattern of the 2 tyres was clearly visible. 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. The 2 tyres were both observed to be sufficiently inflated for vehicular operation. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-



IRC Wing VR77 70/90 - R17 (4mm)	IRC Wing VR77 70/90 - R17 (4mm)

7. The rear tyre was wrapped around alloy wheel rims that were found to be without any significant damage. See photo 8 & 9 below

Photo 8 shows the rear tyre of the Motorcycle. 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.

Photo 9 shows the front tyre of the Motorcycle. 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.

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 was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. Free play tension test was also conducted & found adequately acceptable. See photo 10 – 13 below.

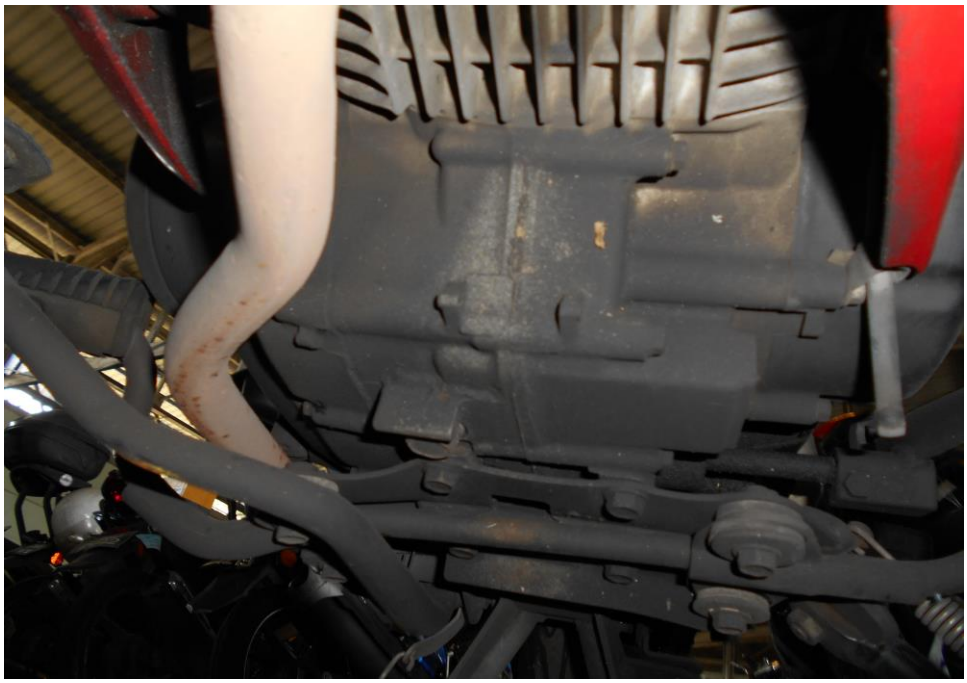


Photo 10 shows no sign(s) or indication(s) of fluid leak observed around the underside of the engine area of the Motorcycle.

Photo 11 shows no sign(s) or indication(s) of fluid leakage stain observed around the engine area of the Motorcycle.

Photo 12 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 13 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. Free play tension was also observed & found adequately acceptable.

Steering System & Braking System

10. Our checks on the various steering components of the Motorcycle had revealed that its steering system was in serviceable condition. Its front fork was found to be intact and undamaged not affected by the accident's impact.

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). The brake for the front wheel is engaged by pulling 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.

12. A static brake test was unable to be conducted on the Motorcycle front brake due to the damaged/broken hand brake lever. However, rear brakes test had appeared to indicate that the rear braking system of the Motorcycle was in serviceable condition.

13. The Motorcycle's braking system like the brake discs, brake callipers, brake foot pedal, rear brake mechanism and brake hoses revealed all to be intact and without damage despite broken front hand brake lever. There was braking reaction on the rear brake upon stepping on the brake pedal when we manually test the rear brake. This would indicate that there was no damage/abnormalities in the rear brake system. Our checks on the front brake fluid reservoir had also indicated that the brake fluid was of sufficient level for operational purposes, and without contamination.

Operational Test

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 unavailability of the engine starter key, which had rendered the Motorcycle immobility for the operational tests. However, we were able to push the motorcycle manually forward and backward, simulating movement of the Motorcycle, for the operational tests. Only rear brake was engaged while conducting the manual movements and it was observed to be in serviceable condition.

15. As mentioned on paragraph 12, the front brake was unable to be tested due to the damages sustained as a result of the accident.

    In general, the observations gathered during the static brake test & manual movement test had indicated that the steering system & rear braking system of the Motorcycle was in serviceable condition. See photo 14 - 18 below.

Photo 14 shows our checks on the brake fluid (front) reservoir had also indicated that the brake fluid was of sufficient level for operational purposes, and without contamination.

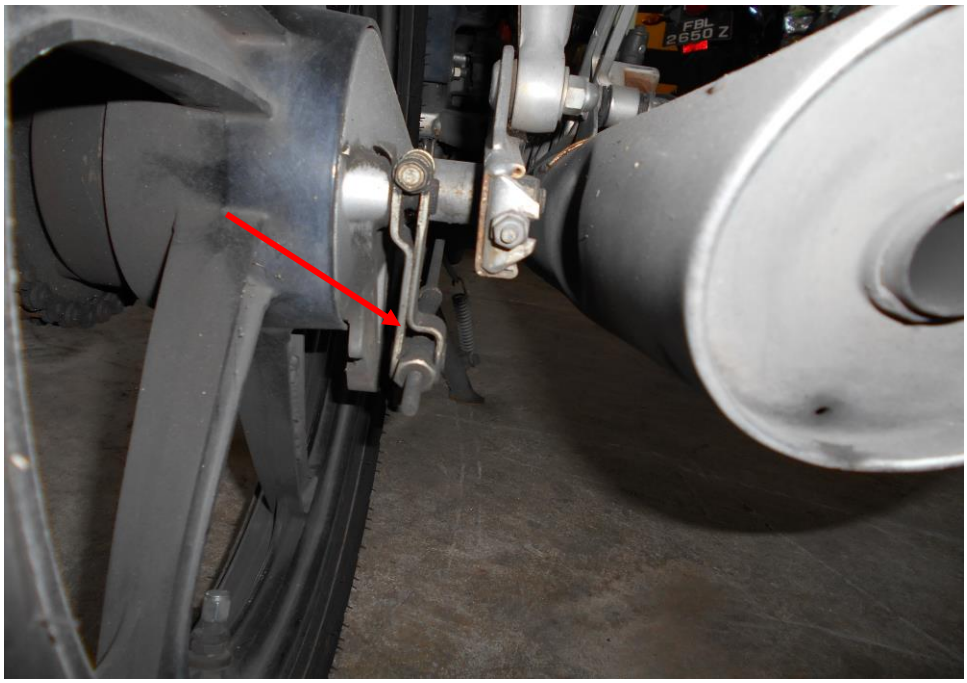


Photo 15 shows our checks on the rear brake mechanical components had also indicated that the rear brake was fit for operational purposes, without abnormalities unaffected by the accident.

Photo 16 shows broken front brake lever as a result of the accident. This had disabled the static test on the front braking system.

Photo 17 shows testing of the braking of the rear brake in progress. There was some resistance felt (spongy like feel) upon stepping on the brake pedal.

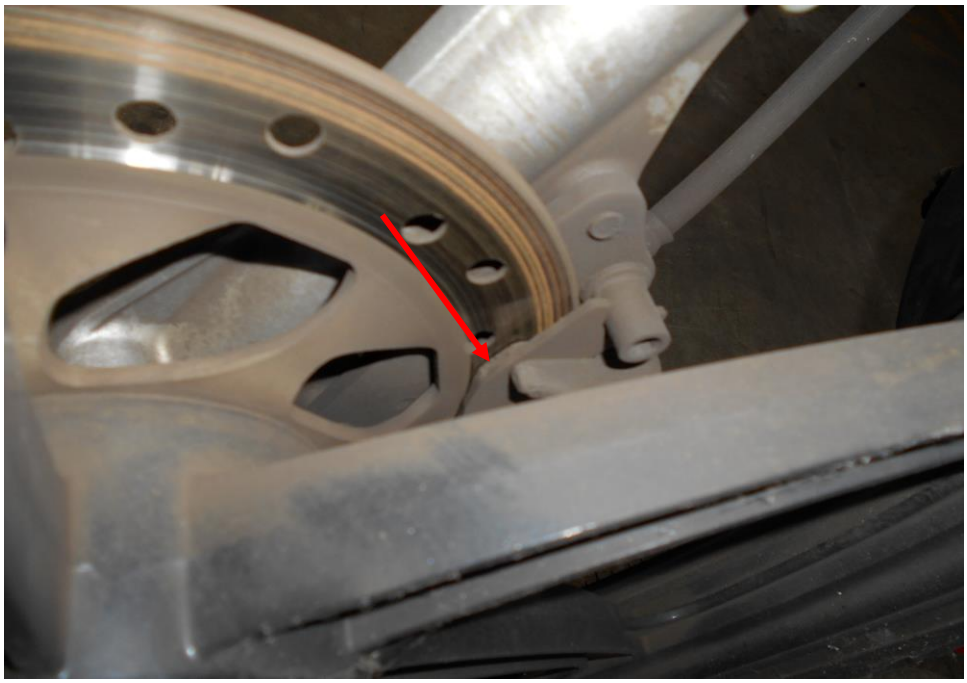


Photo 18 shows the front brake pad at time of our inspection. The frictional material was observed to be sufficient for operational purposes.

Conclusion

16. 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 despite broken front hand brake lever. 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.

17. The tyres of the Motorcycle were found to be in a 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 tyre. It was sufficiently inflated for vehicular operation with remaining tread depth of approximately 4 mm.

18. Our findings were based solely on a static test, visual inspection and manual test of the Motorcycle simulating its movement. No operational test(s) could be carried out to the Motorcycle due the unavailability of the engine starter key, which had rendered the Motorcycle's immobility.

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