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Your Ref: TP/IP/30413/2018
Our Ref :CI/TPD18011354/Z

27th August 2018

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBD 9969B

1. We refer to your request dated 27th May 2018 to conduct a physical inspection of a Motorcycle bearing registration number FBD 9969B (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 23rd May 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 26th June 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 was not recorded at time of inspection due to the severe damages to the ignition system as a result of the accident.

5. The Motorcycle was observed to have sustained severe damages at the frontal portion, rear portion & along both its left side and right side. The body parts that were found to have been damaged includes its missing front head lamp, ERP unit & bracket, handle bar, front wing mirrors, seat assembly, fuel tank and rear portion amongst others. Its front forks assemblies were also observed to be dislodged as a result of the accident.

6. This was likely due to the consistency of the accident's case fact that on 23rd May 2018 about 0732hrs, a motorcyclist was lying motionless along Tuas South Way towards Tuas Avenue 5, near LP 45, in between lane 2 & 3 of the 3 lanes road while his motorcycle was found crashed into a concrete barricade. It was believed that the motorcyclist was travelling straight along Tuas South Way towards Tuas Avenue 5 on lane 2 of a 3 lanes road when he collided into a concrete barricade on the road. The barricade was meant to seal off the road from public entry. After the collision, the motorcyclist was flung forward about 11 metres and landed in between lane 2 & 3 of the 3 lanes road. See photos 1 to 7.

Photo 1 shows the speedo meter of the Motorcycle. The mileage was not recorded at time of inspection due to the severe damages to the ignition system as a result of the accident.

Photo 2 shows the Motorcycle number plate for identification.

Photo 3 shows a general view of the front body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained with relatively extensive impact due to the accident collision. Amongst the body parts damaged was its front fork (arrowed), which was observed to be dislodged from the Motorcycle body.

Photo 4 shows a general view of the rear left body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages at the frontal portion, rear portion, along both its left side and right side.

Photo 5 shows a general view of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively extensive impact due to the accident collision.

Photo 6 shows a close-up view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively extensive impact including damages to the fuel tank due to the accident collision.

Photo 7 shows a close-up view of the front portion of the Motorcycle at the time of our inspection. The Motorcycle engine components such as radiator, front fork & other components were observed to have sustained relatively extensive impact due to the accident collision.

Tyres and Wheel Rims

7. The condition of the Motorcycle's rear tyre was observed to be in serviceable condition. The tread pattern of the rear tyre 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 rear tyre.

8. As for the front tyre it was found to be dislodged from the broken wheel rim likely due to the accident impact. However, the tread pattern of the front tyre 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 front tyre. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-

Bridgestone Battlax HyperSport
190/55 ZR 17(3mm)

Bridgestone Battlax HyperSport
120/70 ZR 17(4mm)

9. The rear tyre was observed to be wrapped around alloy wheel rims that were found to be without any significant damage. It was found to be in serviceable condition with adequately inflated for operational purpose.

10. As for the front wheel rim, it was noted to have sustained with damages (broken) at time of our inspection. The front tyre was found to be dislodged due to the broken wheel rim as a result of the accident's collision. See photo 8 – 10 below

Photo 8 shows the rear tyre of the Motorcycle at the time of our inspection. 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. There was no significant damage observed on the rear wheel rim & tyre.

Photo 9 shows the front tyre of the Motorcycle and the tread pattern was 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 with remaining tread depth of approximately 4mm. However, the wheel rim was observed to be broken & the tyre was dislodged from the wheel rim as a result of the accident.

Photo 10 shows the cracked wheel rim on front tyre of the Motorcycle at the time of our inspection.

Engine & Drive Train

11. Upon examination of the engine area of the Motorcycle, we had observed that the various engine related parts and components were intact but with visible damages such as damaged radiator, exhaust manifold, fuel tank amongst others. The engine underside was also observed to be covered with reddish fluid, suggesting leakage of fluid. There was no accumulation of dust and/or dirt particles on the engine housing where the fluid stains had formed. This would indicate that the fluid leakage was a fresh leak and likely to be a result of the accident.

12. The gear chain of the Motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. See photo 11 – 14 below.

Photo 11 shows sign(s) or indication(s) of fluid leakage observed on the floor around the engine's underside area of the Motorcycle.

Photo 12 shows sign(s) or indication(s) of fluid leakage observed on the floor around the engine's area of the Motorcycle.

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.

Photo 14 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.

Steering System & Braking System

13. For this case, we were not able to conduct any test(s) on the steering system of the Motorcycle due to the damages on its front fork. The front fork was found to be damaged (dislodged) as a result of the accident, hence causing the whole steering system to be in a state of immobility.

14. The brake system of the Motorcycle was of a fully-hydraulic type, where hydraulic (brake fluid) pressure controls the brake for the front & rear wheel. Our visual examination of the various components in the braking system, like the brake disc, brake calliper, brake hoses and brake foot pedal revealed all to be affected by the accident. However, for the rear braking components such as brake calliper, brake disc, brake hose & brake pad were observed to be unaffected by the accident's impact.

15. Static brake tests was unable to be conducted on the Motorcycle braking system due to the braking components were noted to be extensively damaged such as damaged hand brake lever, dislodged front wheel, fluid leakage and damaged brake disc of the Motorcycle front brake at the material time of our inspection. As for the rear brake, we were unable to conduct any static brake test due to the Motorcycle's inability to be parked normally due to the extensive damages sustained to its body structure.

16. 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 damages on its front forks, which had rendered the Motorcycle immobility for the operational tests. See photo 15 to 20 below.

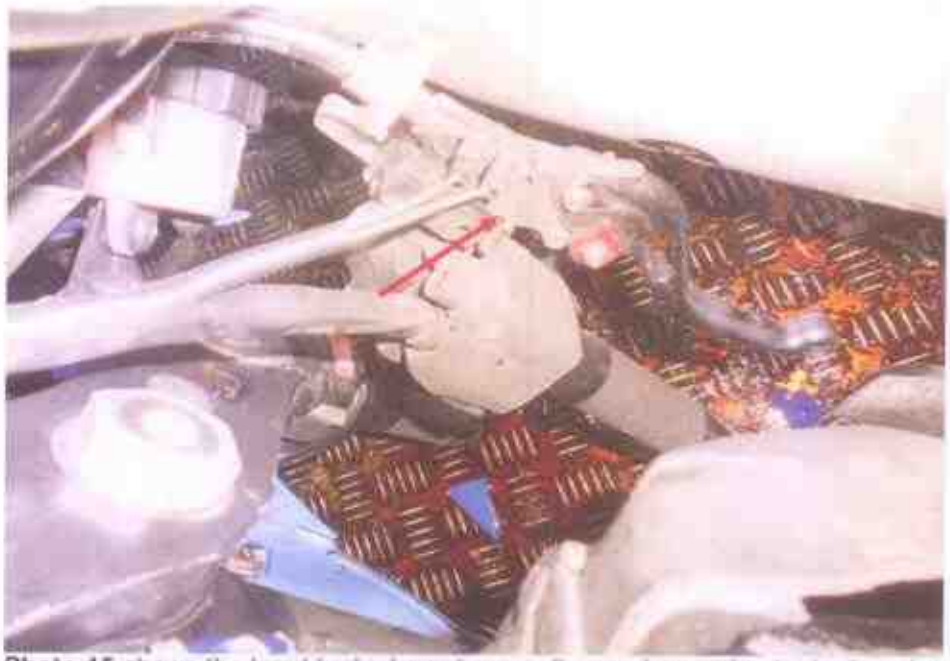

Photo 15 shows the hand brake lever (arrowed) was observed to be broken due to the result of the accident. Hence, we are unable to conduct any tests on the braking system of the Motorcycle.

Photo 16 shows the front brake components (arrowed) was observed to be crushed as a result of the accident. Hence, we are unable to conduct any tests on the braking system of the Motorcycle.

Photo 17 shows the front fork (circled) was observed to be dislodged as a result of the accident. Hence, we are unable to conduct any tests on the steering system of the Motorcycle.

Photo 18 shows the front brake calliper and front brake disc of the Motorcycle (arrowed in red), which are all part of the components in the front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be affected due to the accident's impact collision.

Photo 19 shows the front brake pad, which is part of the components in the front brake system of the Motorcycle. Our visual checks had revealed that it was still in serviceable condition, intact with no visible damage & sufficient frictional padding.

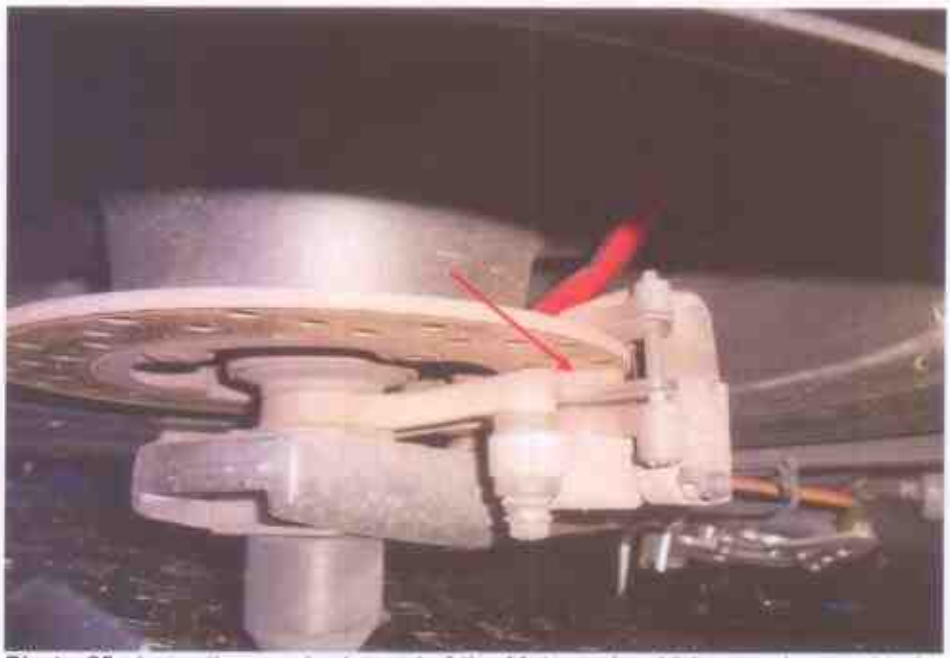

Photo 20 shows the rear brake pad of the Motorcycle which was observed to be in serviceable condition. No damages were found at time of our inspection to the rear braking components.

Conclusion

17. At the time of our inspection of the Motorcycle, its steering system & braking system could not be tested due to the extensive damages sustained as a result of the accident.

18. 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 engine system, steering system and braking system were all damaged as a result of the accident.

19. The condition of the Motorcycle's rear tyre was observed to be in serviceable condition. The tread pattern of the rear tyre 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 rear tyre. Its tread depth was measured & found to be around approximately 3mm.

20. As for the front tyre, it was found to be dislodged from the wheel rim due to the cracked wheel rim as a result of the accident's collision. However, the tread pattern of the front tyre was clearly visible with tread depth of 4mm. 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.

21. Our findings were based solely on a static and visual inspection of the Motorcycle. No operational test(s) could be carried out to the Motorcycle due to the damages on its steering system & braking system (as a result of the accident), which had rendered the Motorcycle's immobility.

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