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Your Ref: TP/IP/42521/2018
Our Ref :CI/TPD18021189/Z

23rd November 2018

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBL 1211P

1. We refer to your request dated 27th September 2018 to conduct a physical inspection of a motorcycle bearing registration number FBL 1211P (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 28th July 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 October 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 at the time of our inspection was not recorded due to the unavailability of the ignition key.

5. The Motorcycle was observed to have sustained damages at the frontal portion, rear portion & along its left side and right side portion. The body parts that were found to have been damaged include its left & right side fairing, missing right wing mirrors, dislodged left handle bar, rear mudguard and dislodged left foot rest & gear shift pedal amongst others. The damages were likely due to the result of the accident's impact collision.

6. This was likely to be the consistency of the accident's case facts that on 28th July 2018 at about 0132hrs, a motorcyclist was travelling along Fort Canning Link into Penang Road towards Somerset when he self-skidded. See photo 1 to 7 below.

Photo 1 shows a general view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to be have sustained with damages due to the accident collision.

Photo 2 shows a general view of the front left body of the Motorcycle at the time of our inspection. The Motorcycle was observed to be sustained with damages due to the accident collision. Amongst the body parts damaged was its left handle bar, which was observed to be dislodged from the original structure.

Photo 3 shows a general view of the rear body of the Motorcycle at the time of our inspection. The Motorcycle was observed to sustain with damages which affects the rear mudguard, rear licence plate & rear left signal lamp due to the accident.

Photo 4 shows a close-up view of the rear portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to sustain with damages which affects the rear mudguard, rear licence plate & rear left signal lamp due to the accident.

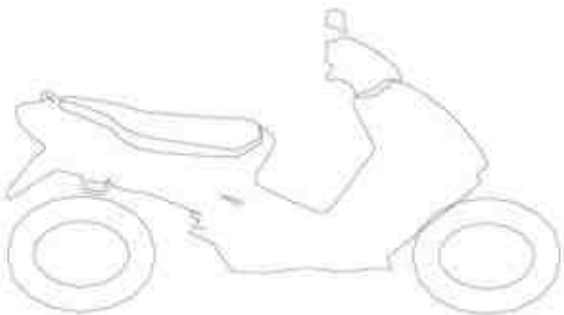
Photo 5 shows a semi close-up view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to be sustained with dislodged left hand side handle bar due to the accident collision.

Photo 6 shows a general view of the front right portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to be sustained with damages due to the accident collision.

Photo 7 shows a semi close-up view of the left portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained with dislodged left side foot rest & gear shift pedal due to the accident collision.

Tyres and Wheel Rims

7. The condition of the Motorcycle's both tyres were observed to be in serviceable condition. The tread patterns of the tyres were 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 tyres. The tyres were 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:-



Pirelli Diablo Rosso III 190/90 – 17 (3mm) Pirelli Diablo Rosso III 120/70 – 17 (2mm)

8. The tyres were wrapped around alloy wheel rims that were found to be without any significant damage. See photo 8– 9 below

Photo 8 shows the front tyre of the Motorcycle. The pattern of the tread was clearly visible with remaining tread depth of about 2mm. There was no tear, burst mark(s) and/or punctured hole(s) on the sidewalls as well as across the tread of the rear tyre unaffected by the accident's impact collision.

Photo 9 shows the rear tyre of the Motorcycle. The pattern of the tread was clearly visible with remaining tread depth of about 3mm. There was no tear, burst mark(s) and/or punctured hole(s) on the sidewalls as well as across the tread of the rear tyre unaffected by the accident's impact collision.

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 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 to 12 below.

Photo 10 shows the general view of the Motorcycle's engine. No signs or indication of any engine leakage at time of our inspection.

Photo 11 shows the general view of the gear train of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

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. Free play tension was also observed & found adequately acceptable.

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 on its steering system. The left handle bar was found to be dislodged from the original installation as a result of the accident, hence causing the whole steering system to be in a state of immobility.

12. The brake system of the Motorcycle was of a full-hydraulic type, where hydraulic (brake fluid) pressure controls the brake for both front & rear wheel. 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.

13. Static brake tests conducted on the Motorcycle front & rear brakes had appeared to indicate that the braking system of the Motorcycle was in serviceable condition. The Motorcycle's braking system like the brake discs, brake callipers, brake lever, brake foot pedal and brake hoses revealed all to be intact and without damage. 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 brake system. Our checks on the brake fluid 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 damage of its steering system, which had rendered the Motorcycle immobility for the operational tests. However, by holding the right hand side handle bar, we were able to push the motorcycle manually forward and backward, simulating movement of the Motorcycle, for the operational tests. Both brakes were engaged simultaneously while conducting the manual movements and it was observed to be in serviceable condition.

15. In general, the observations gathered during the static brake test & manual movement test had indicated that only the braking system of the Motorcycle was in serviceable condition. See photo 13 - 19 below.

Photo 13 shows the front left side handle bar was observed to be dislodged as a result of the accident. Hence, we are not able to conduct any tests on the steering system of the Motorcycle.

Photo 14 shows the front brake fluid reservoir had indicated that the brake fluid was of sufficient level for operational purposes, and without contamination.

Photo 15 shows the front brake calliper, front brake disc, front brake pad and front brake hose of the Motorcycle, which are all part of the components in the front brake system of the Motorcycle. Our observation found that the front braking components were unaffected by the accident.

Photo 16 shows the front brake pad of the Motorcycle (arrowed), which are part of the components in the front brake system of the Motorcycle reveal to be adequately sufficient for operational purposes.

Photo 17 shows the rear brake fluid reservoir had indicated that the brake fluid was of sufficient level for operational purposes, and without contamination.

Photo 18 shows the rear brake calliper, rear brake disc and rear brake hose of the Motorcycle, which are all part of the components in the rear brake system of the Motorcycle. Our observation found that the rear braking components were unaffected by the accident.

Photo 19 shows the rear brake pad of the Motorcycle (arrowed), which are part of the components in the rear brake system of the Motorcycle reveal to be adequately sufficient for operational purposes.

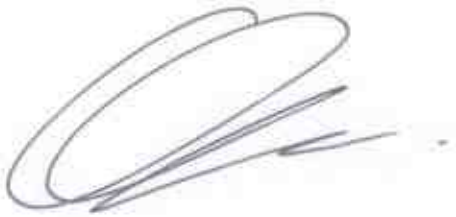
Conclusion

16. At the time of our inspection of the Motorcycle, its steering system could not be tested (due to damage to the handle bar as a result of the accident). The braking systems of the Motorcycle however, were all in serviceable condition. We did not find any evidence(s) to suggest that there were possible mechanical failure to the Motorcycle braking system that may have caused and/or contributed to the accident.

17. Notwithstanding that the steering system could not be tested, the observations gathered from our physical inspection of the Motorcycle had indicated no evidence to suggest possible mechanical failure to the Motorcycle that may have contributed to the accident.

18. 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 2mm & 3mm.

19. Our findings were based solely on a static, visual inspection and manual test of the Motorcycle simulating its movement. No operational test(s) could be carried out to the Motorcycle due to the damage of its steering system (as a result of the accident), which had rendered the Motorcycle immobility.



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