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Your Ref : TP/IP/43461/2018
Our Ref :CI/TPD18016119/Z

10th October 2018

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE JQV 5714

1. We refer to your request dated 01st September 2018 to conduct a physical inspection of a Motorcycle bearing registration number JQV 5714 (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 02nd August 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 01st 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 recorded at 941217km.

5. The Motorcycle was observed to have sustained severe damages at the frontal portion, along both its left side and right side. The body parts that were found to have been damaged includes its dislodged handle bar, missing wing mirrors, damaged radiator, bent rear brake pedal, left & right fairing and stand amongst others. Its front forks assemblies were also observed to be bent as a result of the accident.

6. This was likely due to the consistency of the accident's case fact that on 02nd August 2018 about 0222hrs, a Malaysian Motorcycle (JQV 5714) was travelling straight along SLE towards BKE, near to lamp post 125, when he lost control and collided onto the rear of a moving Tipper Truck. See photos 1 to 6.

Photo 1 shows the mileage of the Motorcycle at the time of our inspection was recorded at 941217km.

Photo 2 shows the Motorcycle number plate for identification.

Photo 3 shows a semi close-up view of the front portion 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 steering system (arrowed), which was observed to be broken.

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

Photo 5 shows a close-up view of the front fork of the Motorcycle at the time of our inspection. It was observed to be bent due to the accident collision.

Photo 6 shows a general view of the right portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively extensive impact including damages to the steering system as a result of 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. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-

Maxxis 80/90 – 17(3mm) Maxxis 70/90 – 17(3mm)

8. The 2 tyres were 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. See photo 7 & 8 below

Photo 7 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 8 shows the front tyre of the Motorcycle at the time of our inspection. The pattern of the tread was clearly visible with remaining tread depth of approximately 3mm. 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.

Engine & Drive Train

9. Upon examination of the engine area of the Motorcycle, we had observed that the various engine related parts and components were intact with no visible damage except for radiator was observed to be damaged as a result of the accident. The engine underside was however observed to be covered with brownish fluid, suggesting leakage of fluid as a result of the accident.

10. The gear chain of the Motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. See photo 9 – 13 below.

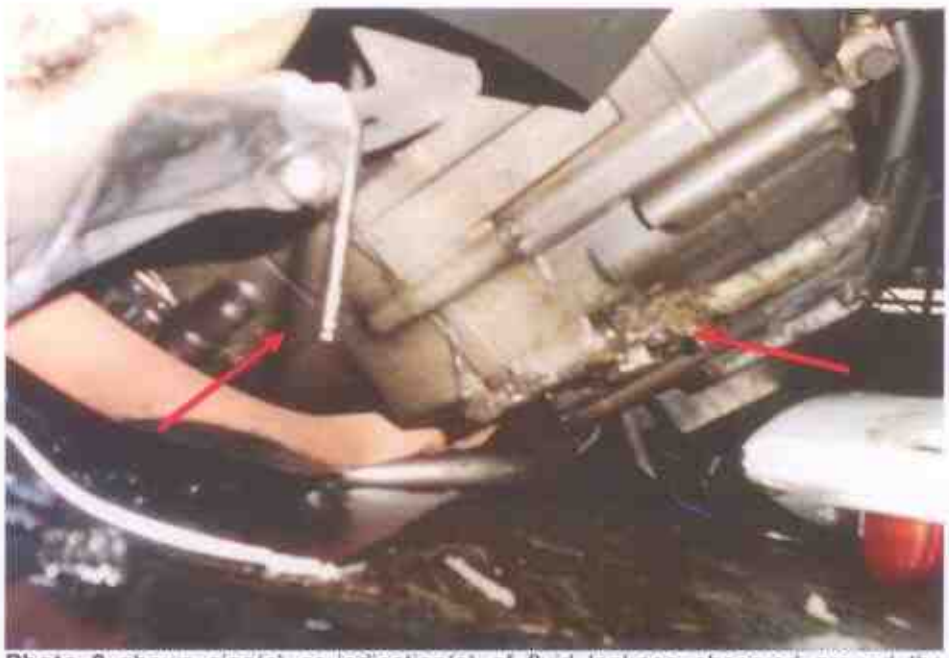

Photo 9 shows sign(s) or indication(s) of fluid leakage observed around the engine's underside area of the Motorcycle.

Photo 10 shows sign(s) or indication(s) of fluid leakage observed around the engine's area & fluid stain on the floor right under the engine pan of the Motorcycle.

Photo 11 shows the close-up view of the corrugated radiator as a result of the accident's impact collision.

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.

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 damages on its handle bar and front fork. It was found to be damaged 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 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.

13. A static brake test for the rear brake was unable to be conducted due to damage on some supporting components & damaged foot brake pedal due to the accident's impact collision.

14. However, static brake test for the front brake had appeared to indicate that the front braking system of the Motorcycle was in serviceable condition. The Motorcycle's braking system like the brake discs, brake callipers, brake lever, brake pad 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.

15. For this case, we were not able to carry out any operational tests to the steering system and brake system of the Motorcycle due to the damages on its handle bar, front forks & ignition system which had rendered the Motorcycle immobility for the operational tests. See photo 14 to 19 below.

Photo 14 shows the handle bar (arrowed) was observed to be dislodged from the original installation as a result of the accident.

Photo 15 shows the front brake fluid reservoir (arrowed) was observed to be unaffected by the accident. It was observed to be of sufficient level & not contaminated at the time of our inspection.

Photo 16 shows the rear foot brake pedal (arrowed) was observed to be in damaged due to the accident's impact collision.

Photo 17 shows the rear brake drum spring & cable was observed to be in serviceable condition unaffected by the accident despite the damage sustained on the foot brake pedal.

Photo 18 shows the front fork was observed to be bent as a result of the accident. Hence, we are unable to conduct any tests on the steering system of the Motorcycle.

Photo 19 shows the brake pad was noted to be with sufficient frictional material at time of our inspection.

Conclusion

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

17. The conditions of the Motorcycle's 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. Its tread depth was measured & found to be around approximately 3mm each.

18. Notwithstanding that the steering system & braking 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.

19. 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, ignition system & braking system (as a result of the accident), which had rendered the Motorcycle's immobility.

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