LVK Auto Consultants Pte Ltd

Company Registration No. 199607198R

51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108

Your Ref: TP/IP/51609/2018
Our Ref :CI/TPD18016729/Z

21st December 2018

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBA 2368Y

1. We refer to your request dated 13th September 2018 to conduct a physical inspection of a motorcycle bearing registration number FBA 2368Y (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 08th September 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 10th 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 947726km.

5. The Motorcycle was observed to have sustained extensive damages at the frontal portion & rear portion. The body parts that were found to have been damaged include its front headlamp & small lamp assembly, left & right wing mirrors, front fork, brake lever, seat assembly, In-Vehicle unit, damaged front rim and rear box bracket amongst others. Its handle bar was also observed to be dislodged as a result of the accident.

6. This was consistent with the accident's case facts that on 08th September 2018 at about 1412hrs, it was revealed that the motorcyclist was travelling along BKE (Woodlands) towards JB (Malaysia). While travelling near 9.5km marker, on lane 1 of the 3 lanes road, the motorcyclist collided into the rear portion of the involved Party's Motor Car (SJX 1293U). Due to the collision, the motorcyclist fell to the left and landed in between lane 1 and 2. See photo 1 to 8 below.

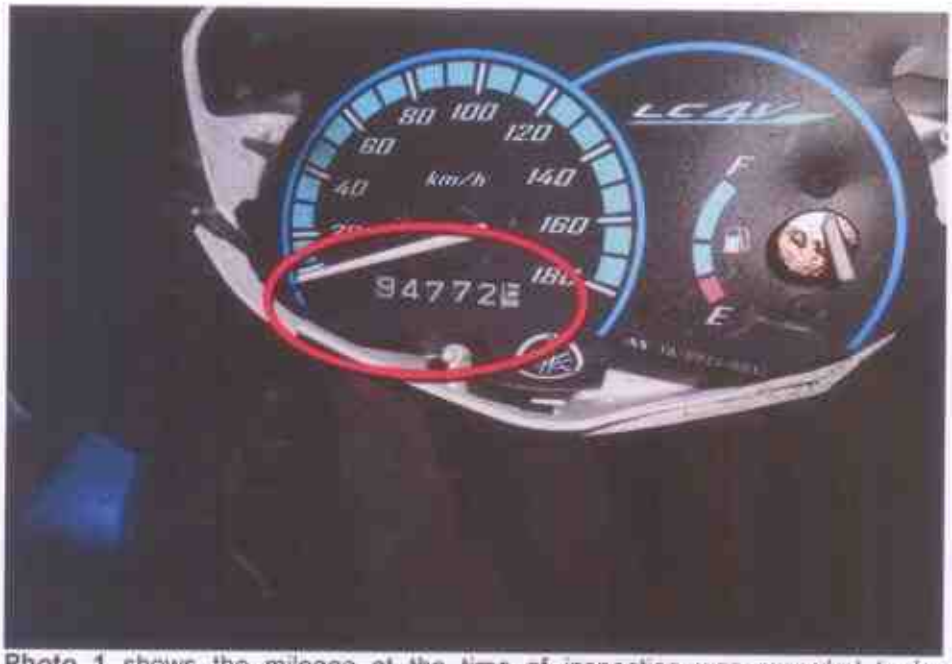


Photo 1 shows the mileage at the time of inspection was recorded to be 947726km.

Photo 2 shows a general view of the front body of the Motorcycle at the time of our inspection. The Motorcycle was observed to be sustained with relatively extensive impact due to the accident collision. Amongst the body parts damaged was its handle bar (arrowed), which was observed to be dislodged.

Photo 3 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 minor damages at the rear portion which includes bent rear box rack as a result of the accident.

Photo 4 shows a general view of the rear left 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.

Photo 5 shows a general view of the frontal right portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to be sustained relatively extensive impact which includes dislodged seat assembly due to the accident collision.

Photo 6 shows a close-up view of the damaged steering system & ignition system of the Motorcycle at the time of our inspection. The Motorcycle was observed to be sustained relatively extensive impact due to the accident collision.

Photo 7 shows a close-up view of the front fork of the Motorcycle at the time of our inspection. It was observed to have sustained with relatively extensive impact due to the accident collision.

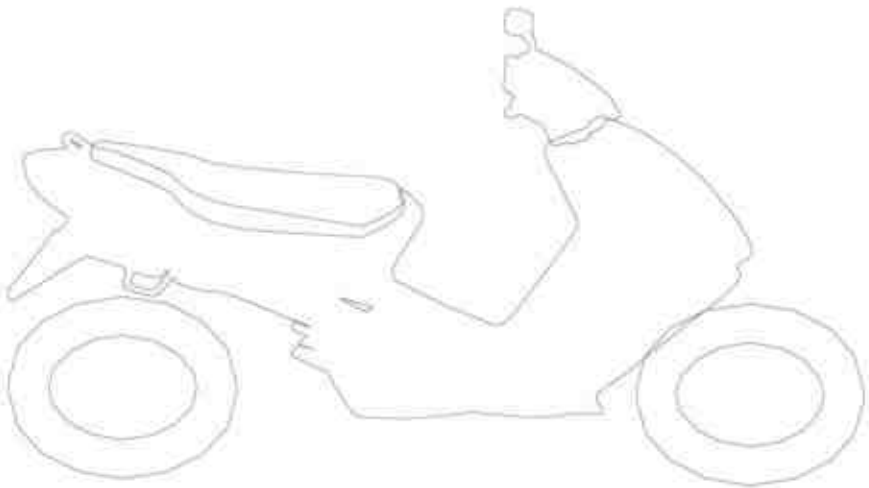
Photo 8 shows a close-up view of the broken alloy rim of the Motorcycle at the time of our inspection. The Motorcycle alloy rim was observed to be broken due to the accident collision.

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 tyres. It was observed to be sufficiently inflated for vehicular operation.

8. As for the Motorcycle's front tyre, it was observed to be dislodged from the broken wheel rim & deflated due to the accident's impact collision. However, the tread pattern of the front tyre was clearly visible. We did observe the front tyre was torn as a result of the accident.

9. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:- See photo 9 & 10 below.



Maxxis 80/90 - 17 (3mm)

Maxxis 80/90 - 17 (3mm)

Photo 9 shows the front tyre of the Motorcycle at the time of our inspection. The front tyre was observed to be dislodged from the broken wheel rim & deflated due to the accident's impact collision. However, the tread pattern of the front tyre was clearly visible. We did observe that the front tyre was torn as a result of the accident.

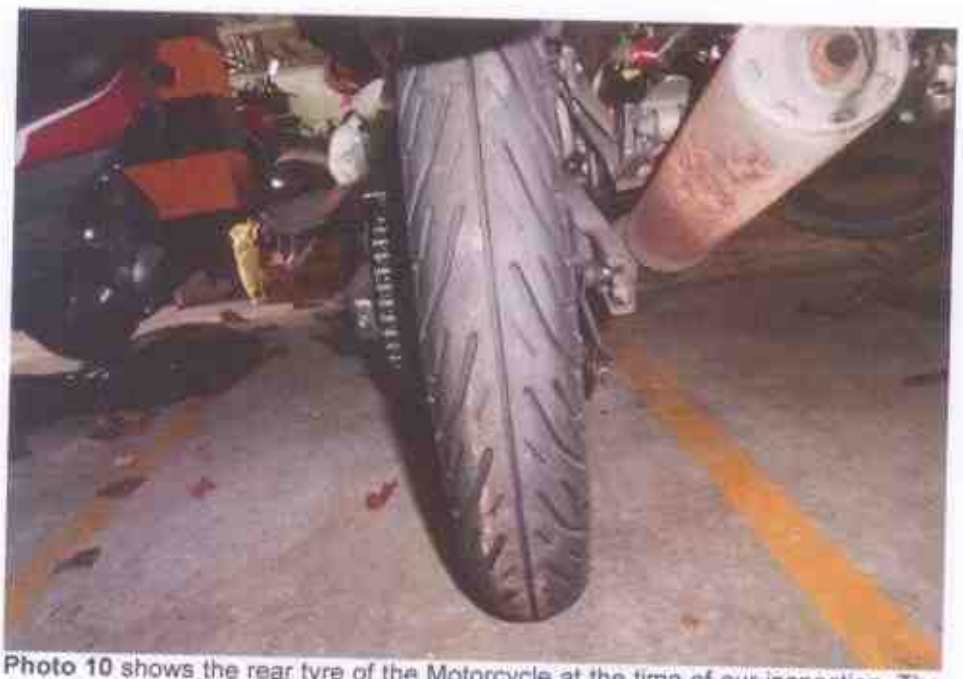


Photo 10 shows the rear tyre of the Motorcycle at the time of our inspection. The rear tyre was observed to be in serviceable condition with remaining tread depth of approximately 3mm. It was also sufficiently inflated for vehicular operation.

10. The rear tyres were wrapped around alloy wheel rim that was found to be without any significant damage.

11. As for the front tyre, it was observed to be dislodged from the broken alloy wheel rim due to the accident.

Engine & Drive Train

12. 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.

13. 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 11 - 13 below.

Photo 11 shows no sign(s) or indication(s) of fluid leak 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

14. 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. It was found to be dislodged as a result of the accident, hence causing the whole steering system not to be in a serviceable condition.

15. 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 calliper, drum and brake foot pedal, revealed all to be intact and without damage.

16. However, upon further examination on the front brake, we did observe visible tear/cut on the connecting hoses and cables that caused brake fluid leakage due to the accident.

17. A static brake test was conducted on the Motorcycle rear brake and it had appeared to indicate that the rear brake system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon stepping on the rear brake foot paddle. This would indicate that there was no abnormality on the rear brake drum mechanical parts.

18. As for the front brake, we were unable to conduct a static brake tests due to the extensive damages which includes broken hand brake lever & brake fluid leakage as a result of the accident's collision. However, our checks on the brake fluid had indicated that the brake fluid was of sufficient level for operational purposes, and without contamination at time of our inspection.

19. 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 damage of its dislodged steering system and damages on the front braking components, which had rendered the Motorcycle immobility for the operational tests. We were hence not able to push the motorcycle manually forward and backward normally, simulating movement of the Motorcycle, for the operational tests. See photo 14 - 18 below.

Photo 14 shows the front 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 15 shows the front fork was observed to be buckled as a result of the accident. Hence, we are not able to conduct any tests on the steering system of the Motorcycle.

Photo 16 shows the front brake calliper, front brake disc and brake pad of the Motorcycle (arrowed), which are all part of the components in the front brake system of the Motorcycle. Our visual checks of these various components had revealed that there's brake fluid leakage as a result of the accident.

Photo 17 shows the front brake fluid observed to be sufficient and without contamination at time of our inspection.

Photo 18 shows the rear wheel of the Motorcycle. The type of brake system for the rear wheel was of 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

20. At the time of our inspection of the Motorcycle, its steering system and braking system could not be tested (due to damage as a result of the accident).

21. 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.

22. 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. It was observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 3mm.

23. As for the Motorcycle's front tyre, it was observed to be dislodged from the broken wheel rim & deflated due to the accident's impact collision. We did also observe the front tyre was torn as a result of the accident. However, the tread pattern of the front tyre was clearly visible with remaining tread depth of approximately 3mm.

24. 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 damage of its steering system and braking system (as a result of the accident), which had rendered the Motorcycle immobility.

Rohaizal A. Rahim
Technical Investigator

Ang Bryan Tani
AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA
Senior Technical Investigator
Technical Investigation & Reconstructionist (SAE-A)

DISCLAIMER OF LIABILITY TO THIRD PARTIES:- This Report is made solely for the use and benefit of the Client named on the front page of this Report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report, in whole or in part, does so at his or her own risk.