LKK 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/68603/2018
Our Ref: CI/TPD19000753/P

25th April 2019

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

MECHANICAL INSPECTION REPORT OF MOTORCYCLE FBL 2650Z

1. We refer to your request dated 28th December 2018 to conduct a physical inspection of a motorcycle bearing registration number FBL 2650Z (herein referred to as "**Motorcycle**"), which was involved in a fatal road traffic accident on 12th December 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 4th March 2019 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 could not be recorded at time of our inspection. Due to the damage to the battery cause by the accident.

5. The Motorcycle was observed to have sustained damages at the Left, right and rear body portion are amongst others as a result of the accident. See photo 1 – 9.

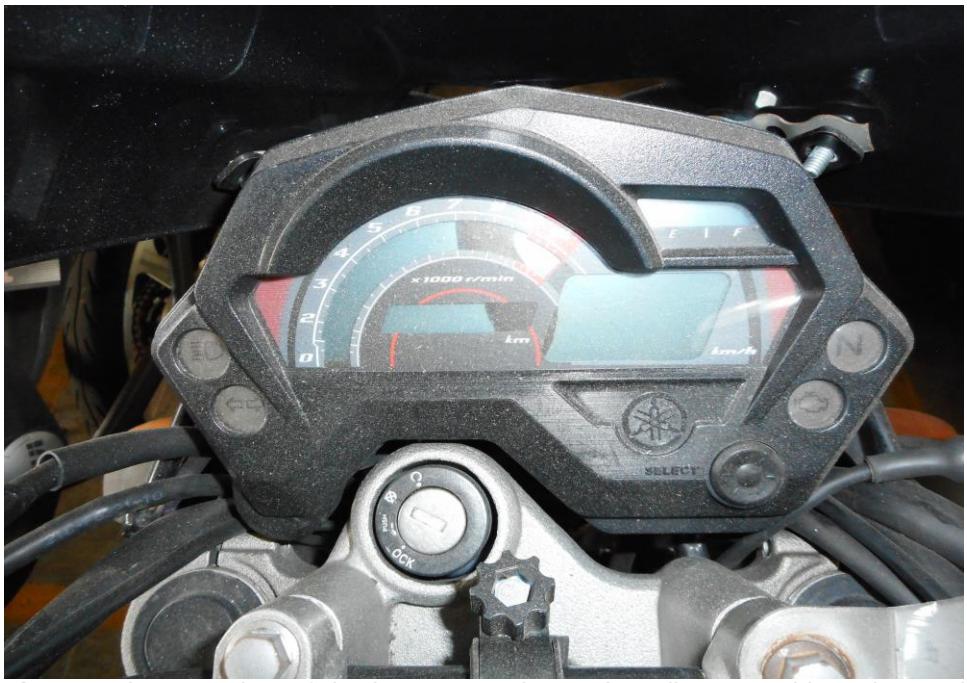


Photo 1 shows a view of the instrument cluster the mileage could not be read due to the damage caused to the battery from the accident at time of our inspection.

Photo 2 shows the general front view of the Motorcycle at the time of our inspection. The Motorcycle was observed to have no damages at time of inspection.

Photo 3 shows a general view of the right side of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively moderate damages at time of inspection.

Photo 4 shows a close up view of the damages to the fuel tank cover and the battery panel at time of inspection likely due to the cause of the accident. See above

Photo 5 shows a close up view of the damages to the battery panel at time of inspection likely due to the cause of the accident.

Photo 6 shows a general view of the rear body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages at the rear box carrier likely due to the cause of the accident.

Photo 7 shows a general view of the left side of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained relatively minor damages at time of inspection.

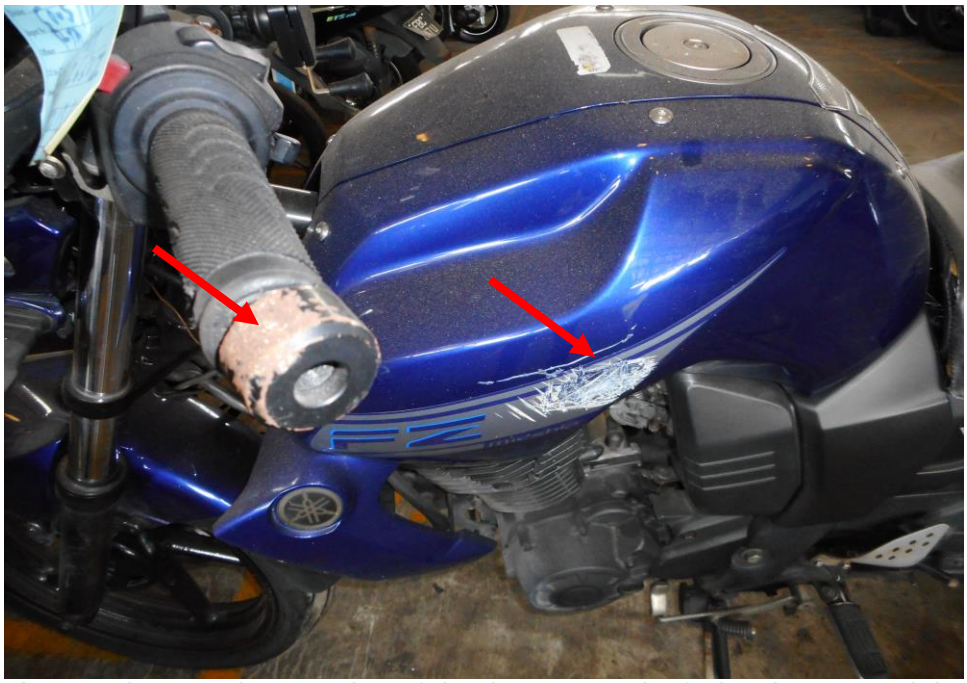
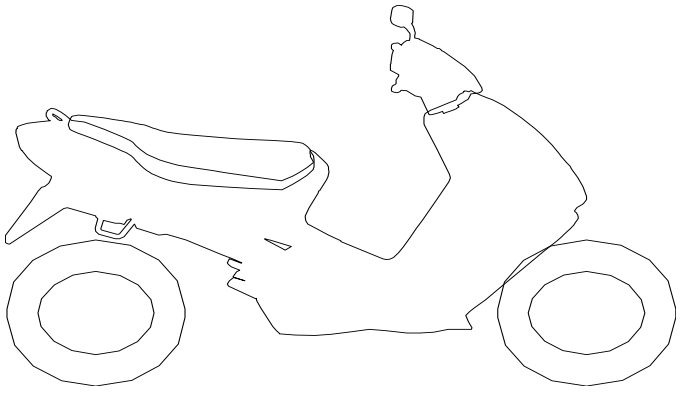


Photo 8 shows a close up view of the damages to the fuel tank cover and the rear panel at time of inspection likely due to the cause of the accident.

Photo 9 shows a close up view of the damages to the rear panel at time of inspection likely due to the cause of the accident.

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:-



Zeneos 150/ 60 - 17 (4.4mm)	Zeneos 110/70 - 17 (6.5mm)

7. The rear & front tyre was wrapped around alloy wheel rims that were found to be without any significant damage. See photo 9 - 12 below

Photo 9 shows the front tyre of the Motorcycle. The rear tyre was observed to be in serviceable & the tyre was also observed to be sufficiently inflated for vehicular operation.

Photo 10 shows the front tyre of the Motorcycle. The rear tyre was observed with remaining tread depth of approximately 4.4mm. The tyre was also observed to be sufficiently inflated for vehicular operation.

Photo 11 shows the rear tyre of the Motorcycle. The front tyre was observed to be in serviceable & the tyre was also observed to be sufficiently inflated for vehicular operation.

Photo 12 shows the rear tyre of the Motorcycle. The front tyre was observed with remaining tread depth of approximately 6.5mm. 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 minimal fluid leakage observed underneath 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 13 – 17 below.

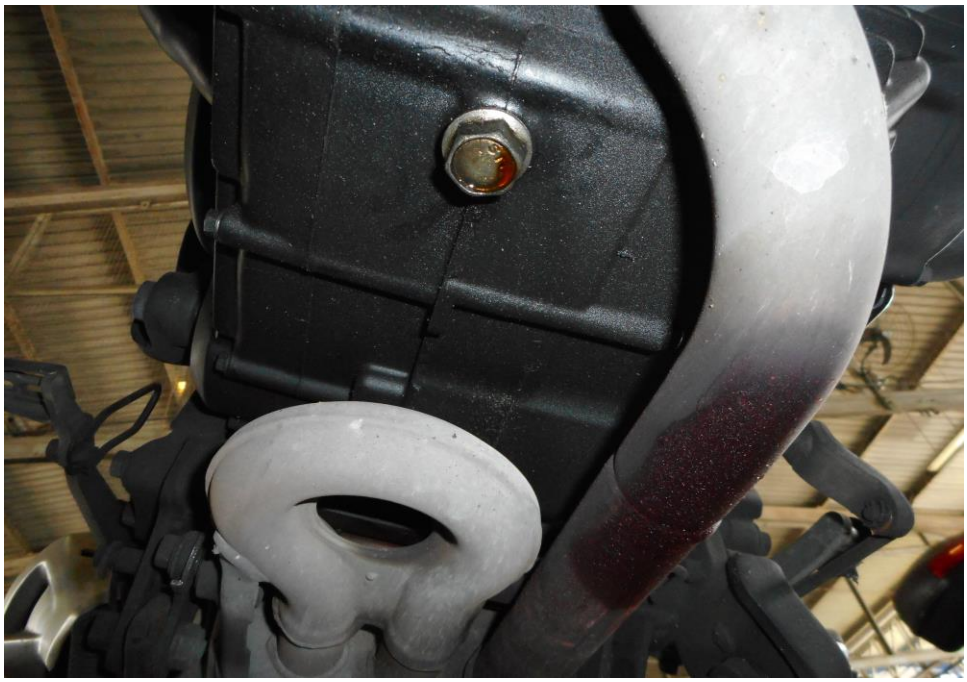


Photo 13 shows minimal flesh fluid leakage observed around the drain plug and the exhaust area underneath the engine area of the Motorcycle.

Photo 14 shows no sign(s) or indication(s) of fluid leakage stain observed around the left engine area of the Motorcycle.

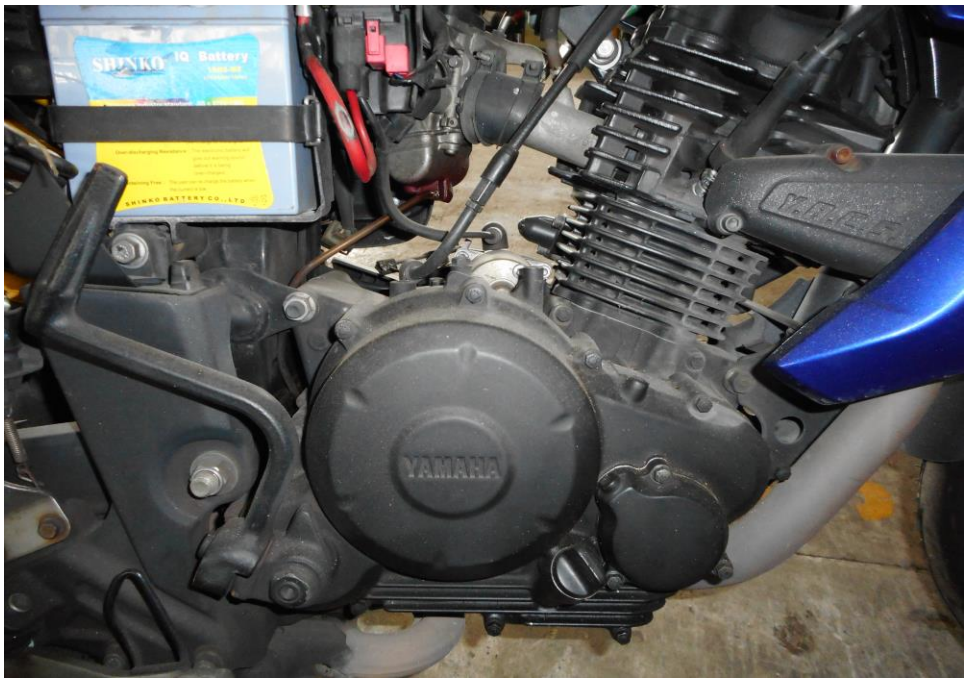


Photo 15 shows no sign(s) or indication(s) of fluid leakage stain observed around the right engine area of the Motorcycle.

Photo 16 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.

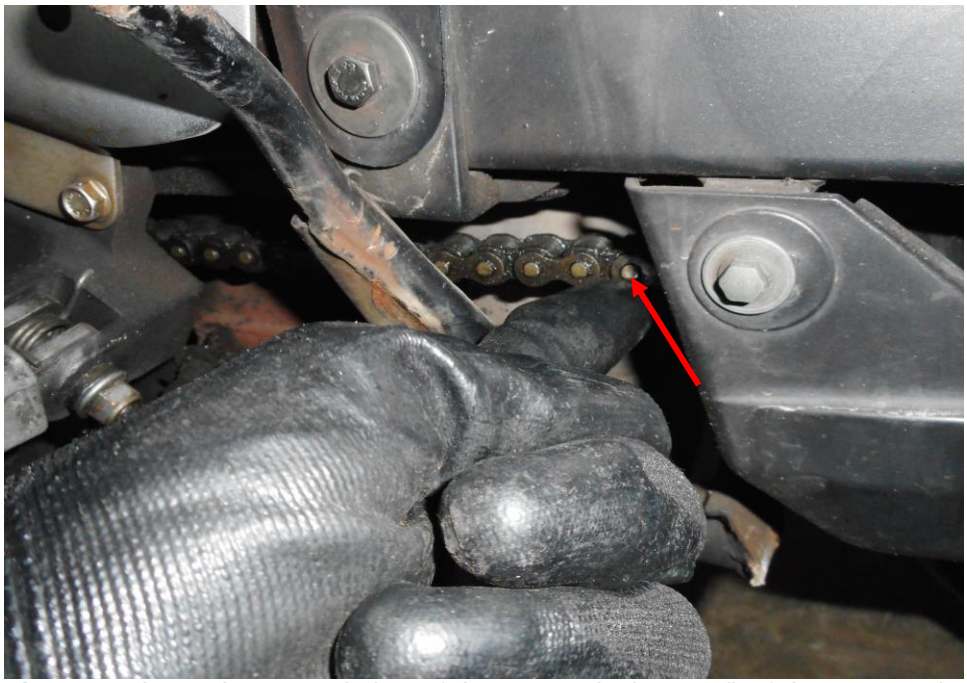


Photo 17 shows the general view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes. Tension was also observed & found adequately acceptable.

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 hydraulic and drum type, where hydraulic (brake fluid) pressure controls the brake for the front wheel & the drum brake controls the 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.

12. Static brake tests conducted on the Motorcycle front brake could not be done as the brake lever was damaged and resulted in the brake applied to a permanent full lock position; thus immobilising the movement of the front wheel of the Motor Cycle. The static test of the rear brakes was conducted by stepping on the brake pedal at the right side foot rest of the Motorcycle and had appeared to be in serviceable condition. Other than the damage on the front brake lever the other components of the Motorcycle's braking system like the brake discs, brake callipers, brake lever, brake pads brake drum, brake foot pedal and brake hoses revealed all to be intact and without damage. See photo 18 - 23 below.

Operational Test

13. No operational test could be conducted due to the damage cause to the right brake handle which rendered the front wheel to be locked,(unable to operate)

Photo 18 shows our checks on the brake fluid (front) reservoir had also indicated that the brake fluid is sufficient level and in serviceable operational purposes.

Photo 19 shows our checks on the brake callipers housing (front). There was also no sign(s) or indication(s) of fluid leak observed around the brake calliper housing.

Photo 20 shows our checks on the drum brake housing (rear) no leakage or fluids is found present around it

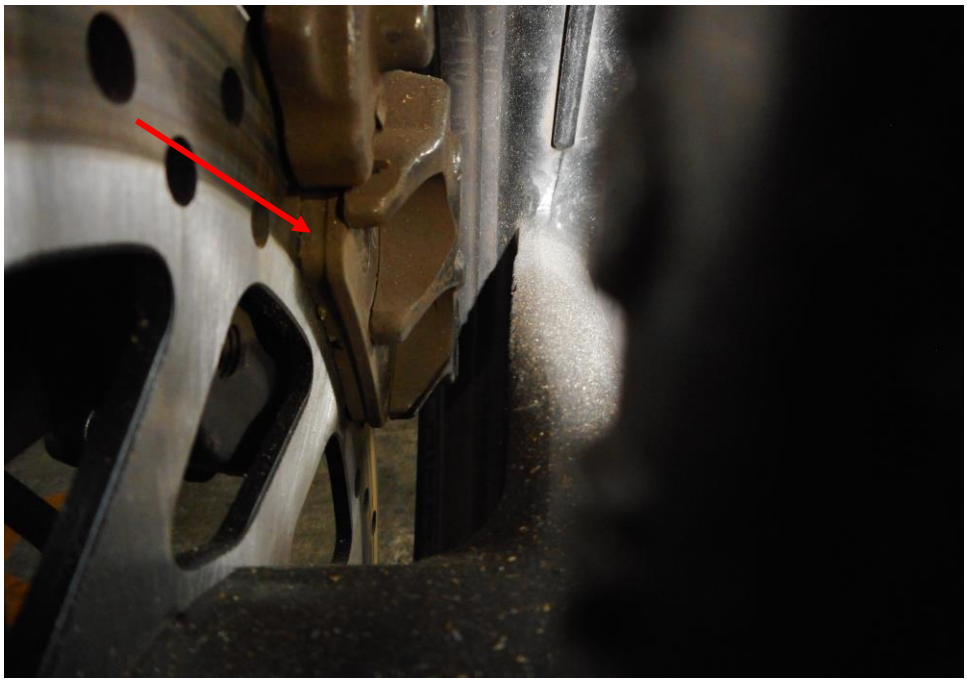


Photo 21 shows a close-up view our checks on the brake pad (front). The frictional material was observed to be in a sufficient level for operational purposes.

Photo 22 shows testing of the braking of the front brake in progress. The braking force was not felt upon pressing the brake lever as the damage likely due to the accident.

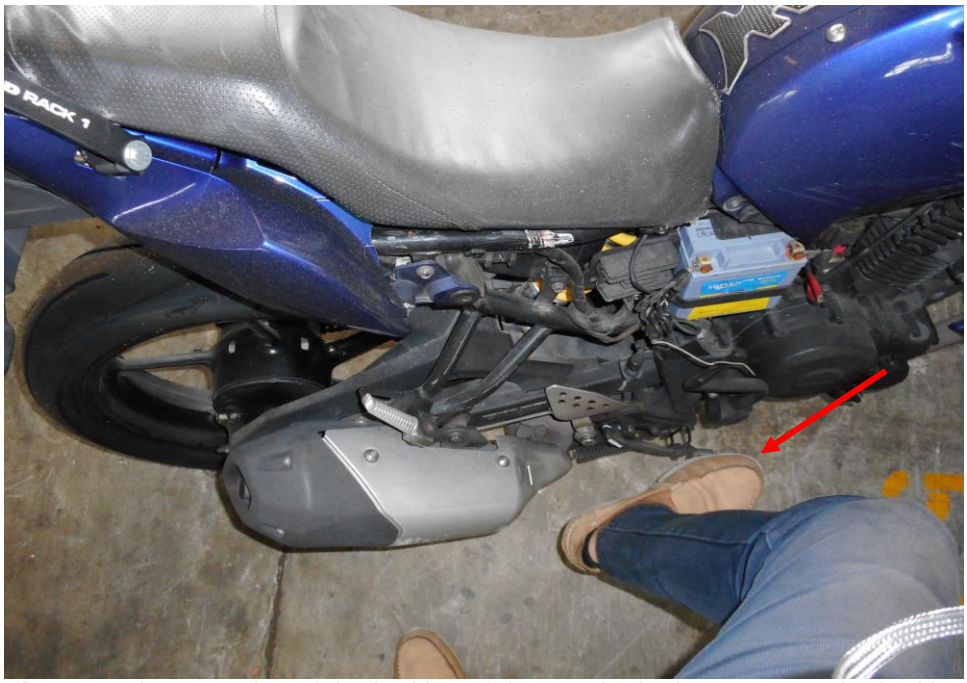


Photo 23 shows testing of the braking of the rear brake in progress. The braking force was felt upon stepping on the brake lever. The brakes are in serviceable condition.

Conclusion

14. Basing on our physical inspection of the Motorcycle, it appears that the steering system was in serviceable condition. We did not find any evidence(s) to suggest that there was possible mechanical failure to its steering system that may have caused and/or contributed to the accident.

15. With regard to the braking system, the front brake was found not able to be tested, while the rear brake was found to be in serviceable condition.

16. 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 Rear 6.5 - Front 4.4mm.

Sherwin Beh,
Technical Investigator

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