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/29173/2021 2 August 2021
Our Ref : CI/TPD21008011/N

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

INSPECTION REPORT OF BICYCLE (ORANGE) - TRAFFIC POLICE POUND REPORT NO. 2062/21

1. We refer to your request dated 30 June 2021 to conduct a physical inspection of a Bicycle bearing Traffic Police Pound Report no. 2062/21 (herein referred to as **"Bicycle"**), which was involved in a fatal road traffic accident on 16 June 2021.

2. The purpose of this inspection is to primarily determine if there was any possible mechanical failure to the Bicycle that may have contributed to the accident.

3. Following the request, we had carried out a physical inspection of the Bicycle on 2 August 2021 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 Bicycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its front basket, front fork assembly, front mudguard, left pedal and rear mudguard, amongst others as a result of the accident. See photos 1 – 9 below.

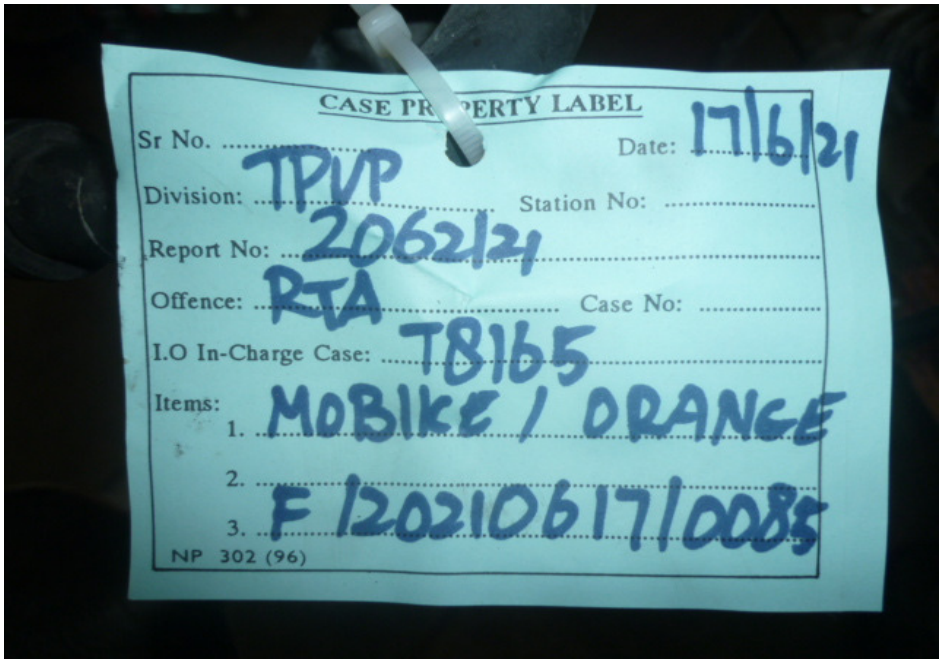


Photo 1 shows the identification of the Bicycle with reference to Traffic Police Pound Report No. 2062/21.

Photo 2 shows the frontal portion of the Bicycle at the time of our inspection. The Bicycle had sustained damages all around.

Photo 3 shows the left body of the Bicycle at the time of our inspection. The Bicycle had sustained damages all around.

Photo 4 shows the rear portion of the Bicycle at the time of our inspection. The Bicycle had sustained damages all around. The body parts that were found to have been damaged include its front basket, front fork assembly, front mudguard, left pedal and rear mudguard, amongst others as a result of the accident.

Photo 5 shows the frontal portion of the Bicycle (top view) at the time of our inspection. There was a misalignment of the handle bar & front tyre observed as a result of the accident.

Photo 6 shows the damaged front basket (arrowed) of the Bicycle at the time of our inspection.

Photo 7 shows the broken front mudguard (arrowed) of the Bicycle at the time of our inspection.

Photo 8 shows the damaged right pedal of the Bicycle (arrowed) at the time of our inspection.

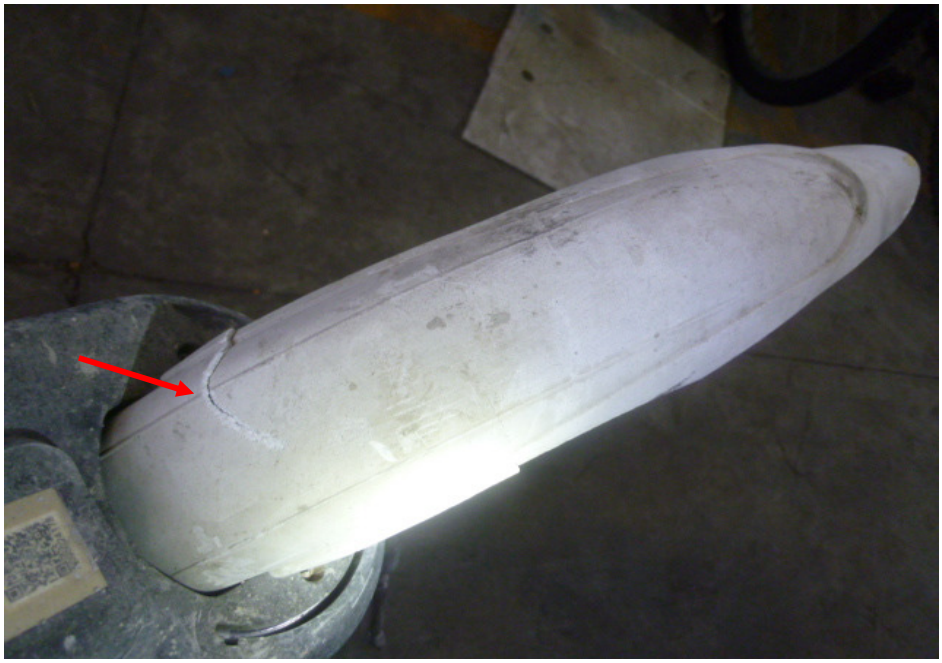


Photo 9 shows the cracked rear mudguard (arrowed) of the Bicycle at the time of our inspection.

Tyres and Wheel Rims

5. The condition of the Bicycle's front & rear 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:-

6. Both tyres were wrapped around alloy spoke wheel rims. At the time of our inspection, we did not observe any visible damage on the rear wheel rim of the Bicycle. However we did observe that the front wheel rim was bent and the spokes on the front wheel rim were bent as a result of the accident. See photos 10 - 12 below.

Photo 10 shows the front tyre of the Bicycle. The pattern of the tread 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. The front tyre was also observed to be sufficiently inflated for vehicular operation.

Photo 11 shows the bent spokes and front wheel rim of the Bicycle at the time of our inspection (arrowed).

Photo 12 shows the rear tyre of the Bicycle. The pattern of the tread 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. The rear tyre was also observed to be sufficiently inflated for vehicular operation.

Drive Train

7. The gear train of the Bicycle was found to be intact without any misalignment. However it was observed not to be adequately lubricated for operating purposes. See photos 13 & 14 below.

Photo 13 shows the general view of the gear train of the Bicycle, which was observed to be intact with no misalignment. However it was observed not to be adequately lubricated for operating purposes (arrowed).

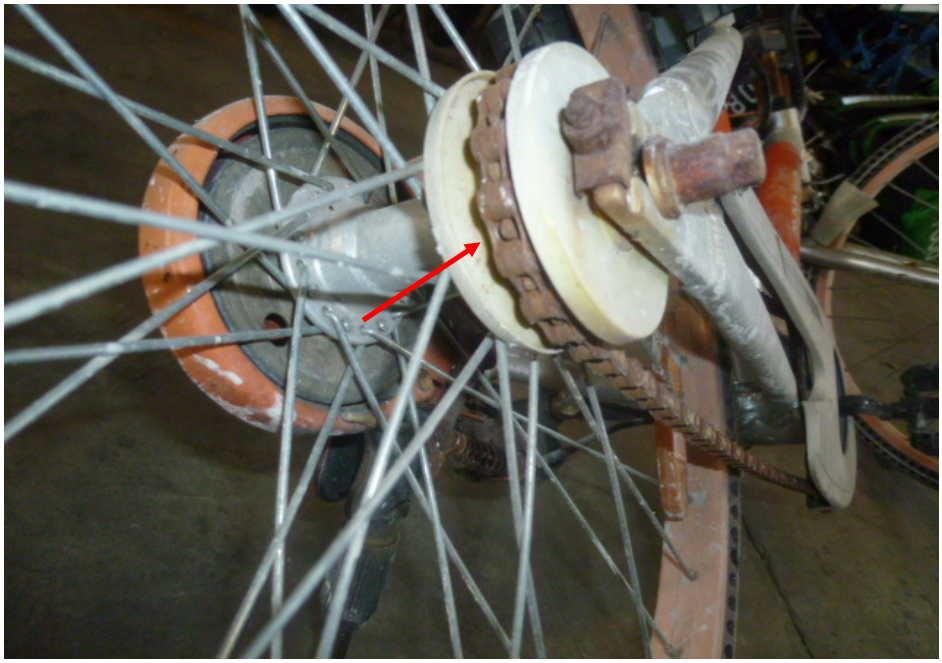


Photo 14 shows a closer view of the gear train (arrowed) of the Bicycle, which was observed to be intact with no misalignment. However it was observed not to be adequately lubricated for operating purposes.

Steering System & Braking System

8. For this case, we were not able to conduct any test(s) on the steering system of the Bicycle due to the damages on its front fork. The front fork assembly was found to be bent as a result of the accident, hence causing the whole steering system to be out of alignment and rendering the Bicycle immobile for any static or operational tests.

9. The braking system of the Bicycle was controlled by mechanical means (cables, callipers and springs). Our visual examination of the various components in the brake system, like the brake drums and springs revealed all to be intact and without damage.

10. Upon closer inspection, we observed that there were no hand brake levers fitted onto the handlebar of the Bicycle. We also found that the brake cables for the front and rear braking system of the Bicycle were cut. Hence we were unable to conduct any static or operational tests on the braking system. See photos 15 - 20 below.

Photo 15 shows the front fork assembly (arrowed) of the Bicycle. The front forks of the Bicycle were both found to be bent as a result of the accident, hence causing the whole steering system to be out of alignment and rendering the Bicycle immobile for any static or operational tests.

Photo 16 shows the left handlebar of the Bicycle. Upon closer inspection, we observed that there was no hand brake lever fitted on the left handlebar of the Bicycle (arrowed).

Photo 17 shows the right handlebar of the Bicycle. Upon closer inspection, we observed that there was no hand brake lever fitted on the right handlebar of the Bicycle (arrowed).

Photo 18 shows the front wheel of the Bicycle. The type of brake system for the front wheel was of a mechanical type, controlled by the left hand lever of the Bicycle. Our checks on the spring and drum (circled), which are all part of the components in the front brake system of the Bicycle reveal all to be intact and without damage. However we also found that the brake cables for the front and rear braking system of the Bicycle were cut (arrowed).

Photo 19 shows a closer view of the brake cable for the rear braking system of the Bicycle which was observed to be cut (arrowed).

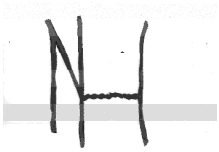
Photo 20 shows the rear wheel of the Bicycle. The type of brake system for the rear wheel was of a mechanical type, controlled by the right hand lever of the Bicycle. Our checks on the spring and drum (circled), which are all part of the components in the rear brake system of the Bicycle reveal all to be intact and without damage (arrowed).

Conclusion

11. At the time of our inspection of the Bicycle, its steering system could not be tested due to the damages as a result of the accident. The Bicycle was found not to be fitted with hand brake levers. Hence we were unable to conduct any static or operational tests of the braking system.

12. The 2 tyres of the Bicycle were found to be in 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 2 tyres. The 2 tyres were both observed to be sufficiently inflated for vehicular operation.

13. Our findings were based solely on a static and visual inspection of the Bicycle. No operational test(s) could be carried out to the Bicycle due to the damage of its steering system as a result of the accident which had rendered the Bicycle immobile.



Muhd Nazril
Senior Technical Investigator

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