

Your Ref: TP/IP/19205/2021
Our Ref : CI/TPD21008297/N

2 August 2021

Fatal Accident Investigation Team

Traffic Police Department
Singapore Police Force
10 Ubi Avenue 3
Singapore 408865

**INSPECTION REPORT OF BICYCLE (BLUE) - TRAFFIC POLICE POUND
REPORT NO. PR 1344/21**

1. We refer to your request dated 11 May 2021 to conduct a physical inspection of a Bicycle bearing Traffic Police Pound Report no. PR 1344/21 (herein referred to as "**Bicycle**"), which was involved in a fatal road traffic accident on 16 April 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 bell, right hand brake lever, pedals and seat, amongst others as a result of the accident. See photos 1 – 9 below.

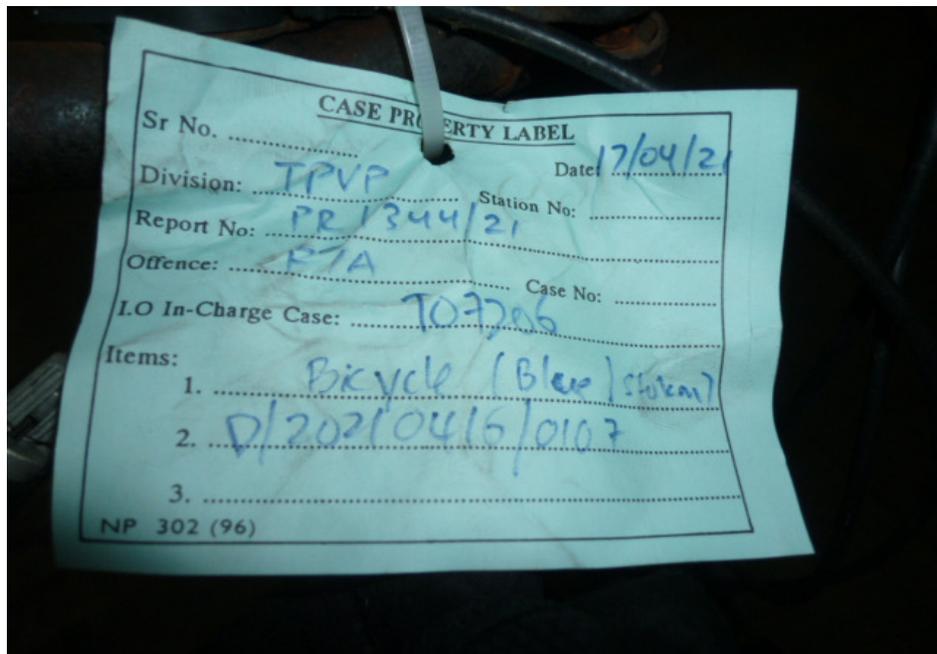


Photo 1 shows the identification of the Bicycle with reference to Traffic Police Pound Report No. PR 1344/21.



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 right body 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 bell, right hand brake lever, pedals and seat, 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 no misalignment of the handle bar & front tyre observed as a result of the accident.



Photo 6 shows the broken bell (arrowed) and broken right hand brake lever (circled) of the Bicycle at the time of our inspection.



Photo 7 shows the damages of grazing nature on the right pedal of the Bicycle at the time of our inspection (arrowed).



Photo 8 shows the missing left pedal of the Bicycle at the time of our inspection (arrowed).



Photo 9 shows a close-up view of the damaged seat (arrowed) of the Bicycle as a result of the accident.

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 rear tyre was observed to be sufficiently inflated for vehicular operation. However the front tyre was observed to be deflated at the time of our inspection. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-



Chao Yang 24 x 1.95

Chao Yang 24 x 1.95
(Deflated)

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 front and rear wheel rim of the Bicycle. 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. However the front tyre was observed to be deflated.



Photo 11 shows the deflated front tyre of the Bicycle (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. It was also 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 (arrowed). It was also adequately lubricated for operating purposes.



Photo 14 shows a closer view of the gear train of the Bicycle, which was observed to be intact with no misalignment (arrowed). It was also adequately lubricated for operating purposes.

Steering System & Braking System

8. Our checks on the various steering components of the Bicycle revealed that its steering system was in serviceable condition. Its front fork was found to be intact and undamaged. Turning the handle bar towards the left and right did not produce any abnormal free play and/or resistance.
9. The brake system of the Bicycle was controlled by mechanical means (cables and springs). Our visual examination of the various components in the brake system, like the hand brake lever (left & right), brake clamps (front & rear) revealed all to be intact without any damages. We also did not observe any visible tear or cut on the connecting cables.
10. A static brake test was conducted on the front brake of the Bicycle. There was some resistance felt upon pressing the right hand brake lever. This was further confirmed by looking at the front brake clamps while we pressed the left hand brake lever. It shows that the front brake clamps responded to the gripping action. The rubber brake blocks pressed against the front wheel rim.

11. A static brake test was conducted on the rear brake of the Bicycle. There was some resistance felt upon pressing the left hand brake lever. This was further confirmed by looking at the rear brake clamps while we pressed the left hand brake lever. It shows that the rear brake clamps responded to the gripping action. The rubber brake blocks pressed against the rear wheel rim.

Operational Test

12. We subsequently carried out an operational test of the Bicycle's braking system. This was done by manually pushing the Bicycle forward and backward, simulating the Bicycle in motion, and thereafter engaging the front brake and rear brake levers of the Bicycle. At the end of the short operational test, we observed abnormal behaviour of the Bicycle's braking system. The front and rear wheel of the Bicycle were unable to stop rotating immediately upon depressing both brake levers. This had appeared to indicate that the braking system of the Bicycle was not in serviceable condition. See photos 15 – 21 below.



Photo 15 shows the front forks (arrowed) of the Bicycle. The front forks and fork bracket of the Bicycle were both found to be intact and undamaged. Turning the Bicycle's handle bar towards the left and right did not produce any abnormal free play. The steering system of the Bicycle was in serviceable condition at the time of our inspection.



Photo 16 shows the front wheel of the Bicycle turned towards its full right. Turning the Bicycle's handle bar towards the right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Bicycle was in serviceable condition at the time of our inspection.



Photo 17 shows the front wheel of the Bicycle turned towards its full left. Turning the Bicycle's handle bar towards the left did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Bicycle was in serviceable condition at the time of our inspection.



Photo 18 shows a static brake test conducted on the Bicycle's front brake. There was some resistance felt upon pressing the right hand brake lever (arrowed). It also shows that the front brake clamps responded to the gripping action (circled) after depressing the right hand brake lever.



Photo 19 shows a close up view of the front brake clamps responding to the gripping action. The rubber brake blocks pressed against the front wheel rim upon depressing the right hand brake lever (arrowed).



Photo 20 shows a static brake test conducted on the Bicycle's rear brake. There was some resistance felt upon pressing the left hand brake lever (arrowed). It also shows that the rear brake clamps responded to the gripping action (circled) after depressing the left hand brake lever.



Photo 21 shows a close up view of the rear brake clamps responding to the gripping action. The rubber brake blocks pressed against the rear wheel rim upon depressing the left hand brake lever (arrowed).

Conclusion

13. Basing on our physical inspection of the Bicycle, it appears that the steering of the Bicycle was found to be in serviceable condition. The braking system of the Bicycle was found not to be in serviceable condition.
14. The 2 tyres of the Bicycle were found to be in serviceable condition (which included the deflated front tyre). 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 rear tyre was sufficiently inflated for vehicular operation.

**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)*

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.