

Your Ref: TP/IP/26385/2020  
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18 November 2020

**Fatal Accident Investigation Team**

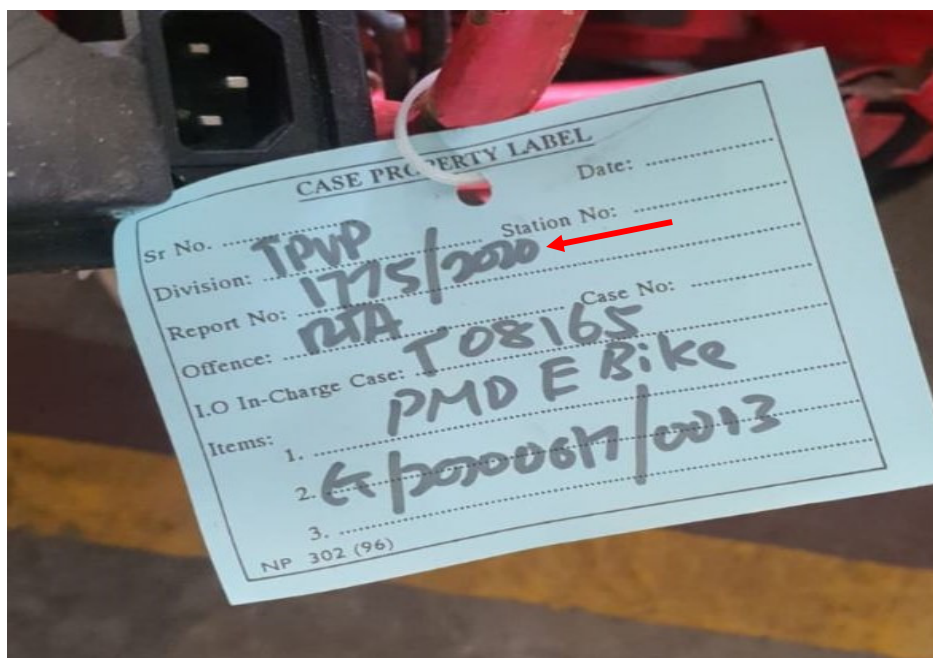
Traffic Police Department  
Singapore Police Force  
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Singapore 408865

**INSPECTION REPORT OF E- BIKE  
TRAFFIC POLICE POUND REPORT NO. 1775/2020**

1. We refer to your request on 31 August 2020 to conduct a physical inspection of the E- Bike bearing Traffic Police Pound Report no. 1775/2020 (herein referred to as “**E- Bike**”), which was involved in a fatal road traffic accident on 18 June 2020.
2. The objective of the inspection is to determine if there was any possible mechanical failure to the E- Bike that may have contributed to the accident.
3. Following the request, we had carried out a physical inspection of the E- Bike on 18 November 2020 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 E- Bike had sustained damages all around. The body parts that were found to have been damaged include its fork assembly, hand brake levers, handlebar, basket, front wheel rim, seat, body frame and rear mudguard, amongst others as a result of the accident. See photos 1 - 10 below.



**Photo 1** shows the identification of the E-bike with reference to Traffic Police Pound Report No. 1775/2020 (arrowed).



**Photo 2** shows the frontal portion of the E-bike at the time of our inspection. The E-bike was observed to have sustained damages all around.



**Photo 3** shows the right body of the E-bike at the time of our inspection. The E-bike was observed to have sustained damages all around.



**Photo 4** shows the left body of the E-bike at the time of our inspection. The E-bike was observed to have sustained damages all around.





**Photo 5** shows the rear portion of the E-bike at the time of our inspection. The E-bike was observed to have sustained damages all around. The body parts that were found to have been damaged include its fork assembly, hand brake levers, handlebar, basket, front wheel rim, seat, body frame and rear mudguard, amongst others as a result of the accident.



**Photo 6** shows the dislodged handlebar (arrowed) of the E-bike as a result of the accident.



**Photo 7** shows the damages on the body frame of the E-bike as a result of the accident (arrowed).



**Photo 8** shows the deformed basket of the E-bike as a result of the accident (arrowed).





**Photo 9** shows the deformed seat of the E-bike as a result of the accident (arrowed).



**Photo 10** shows the deformed rear mudguard of the E-bike as a result of the accident (arrowed).

**Tyres and Wheel Rims**

5. The condition of the E- Bike'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:-



Xiamen Zhengxin 16 X 2.125 (57- 305) (3mm)      Cheng Shin 57- 305 (16 X 2.125) (3mm)

6. The tyres were wrapped around alloy wheel rims. The rear wheel rim was found to be without any significant damage. However the front wheel rim was observed to be broken as a result of the accident. See photos 11 - 13 below.



**Photo 11** shows the front tyre of the E-bike at the time of our inspection. The front 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. 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 front tyre.



**Photo 12** shows the rear tyre of the E-bike at the time of our inspection. The rear tyre was observed to be in serviceable condition with remaining tread depth of approximately 3mm. 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 was also observed to be sufficiently inflated for vehicular operation.





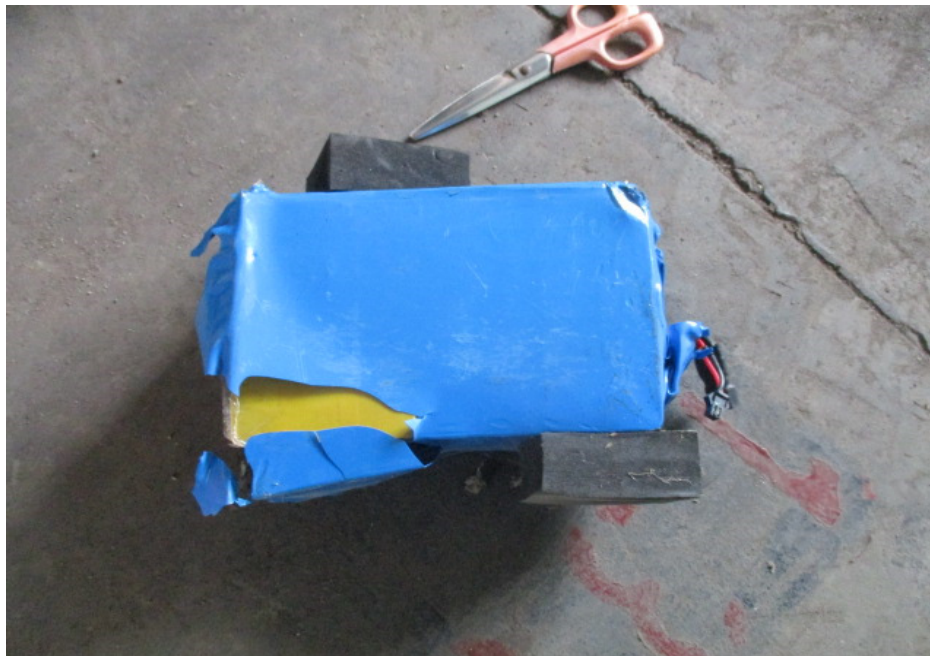
**Photo 13** shows the broken front wheel rim of the E-bike as a result of the accident (arrowed).

### **Drive Motor**

7. The E- bike was controlled by a motor and gear train to drive the rear tyre. The motor was originally installed on the rear portion of the rear tyre & found adequately acceptable. The motor of the E- bike was found to be intact without any misalignment or damages. However it was observed not to be in operational condition due to the dislodged battery as a result of the accident. The gear train of the E- bike was also found to be intact without any misalignment. It was also adequately lubricated for operating purposes. However the chain was observed to be dislodged from the gear train most likely as a result of the accident. See photos 14 - 17 below.



**Photo 14** shows the general view of the drive motor (arrowed) of the E-bike which was observed to be intact with no misalignment. However it was observed not to be in operational condition due to the dislodged battery as a result of the accident.



**Photo 15** shows a closer view of the dislodged battery of the E-bike as a result of the accident.





**Photo 16** shows the general view of the gear train of the E-bike, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes. However the chain was observed to be dislodged from the gear train most likely as a result of the accident (arrowed).

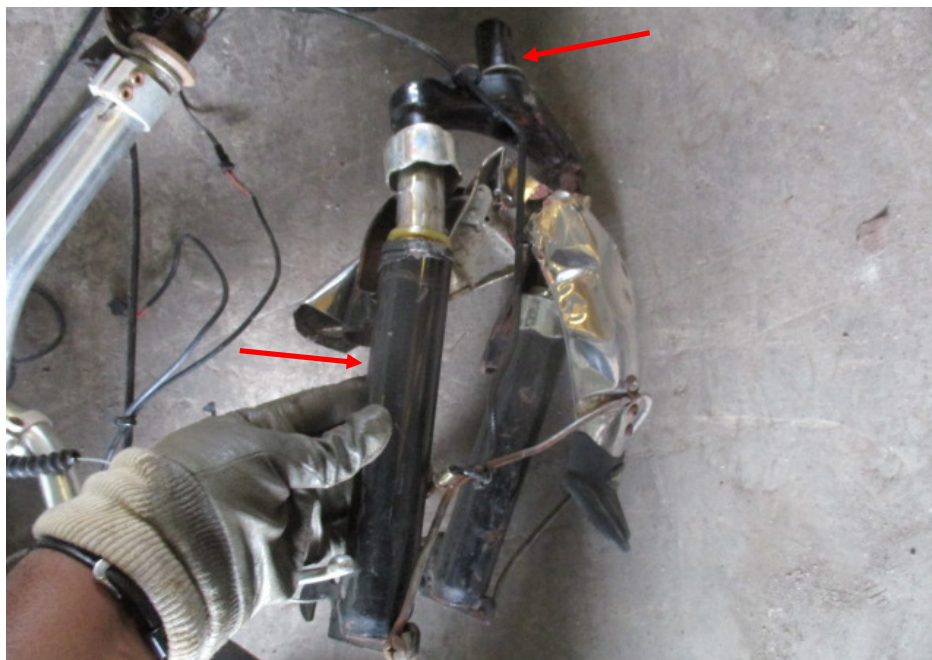


**Photo 17** shows a closer view of the dislodged chain from the gear train of the E-bike, most likely as a result of the accident (arrowed). It was found to be adequately lubricated for operating purposes.



### **Steering System & Braking System**

8. For this case, we were not able to conduct any test(s) on the steering system of the E- Bike due to the damages on its front fork. The front fork was found to be bent and dislodged as a result of the accident. Furthermore, the front wheel rim was dislodged as a result of the accident, hence rendering the E- bike immobile for any static or operational tests.
9. The brake system of the E- Bike was controlled by mechanical means (cables and springs). Our visual examination of the various components in the brake system, like the hand brake levers (left & right) and drum revealed some of these components sustained damages. The left hand brake lever was found to be bent as a result of the accident. We did not observe any visible tear or cut on the connecting cables. However the brake cable for the right hand brake lever was observed to be dislodged as a result of the accident. Hence, we were not able to conduct any static tests on the braking system of the E- Bike. See photos 18 - 21 below.



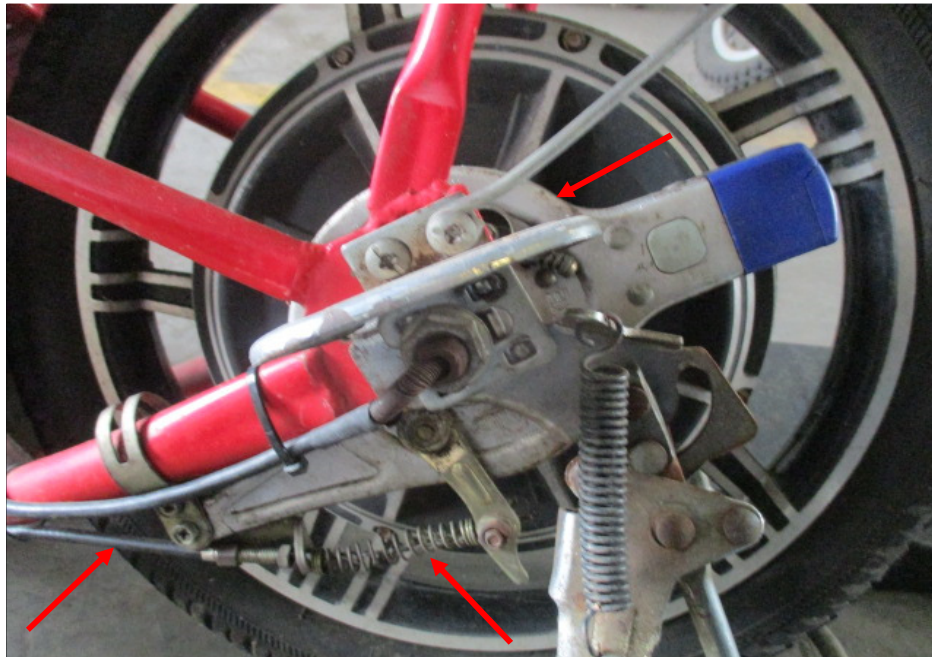
**Photo 18** shows the front forks of the E-bike. The front forks were observed to be bent and dislodged (arrowed) as a result of the accident. We were hence not able to conduct any tests on the steering system of the E-bike.



**Photo 19** shows the right hand brake lever of the E-bike when depressed. The brake cable was observed to be dislodged as a result of the accident (arrowed). Hence a static brake test could not be conducted on the E-bike's braking system.



**Photo 20** shows the bent left hand brake lever of the E-bike as a result of the accident (arrowed). Hence a static brake test could not be conducted on the E-Bike's braking system.



**Photo 21** shows the rear wheel of the E-bike. The type of brake system for the rear wheel was of a mechanical type. Our checks on the cable, spring and drum which are all part of the components in the rear brake system of the E-bike reveal all to be intact and without damage (arrowed).

### **Operational Test**

10. For this case, we were not able to carry out any operational tests to the steering system and braking system of the E- Bike due to the damage of its dislodged front forks and dislodged front wheel rim as a result of the accident which had rendered the E- Bike immobile for the operational tests. We were hence unable to push the E- Bike manually forward and backward, simulating movement of the E- Bike, for the operational tests.

### **Conclusion**

11. At the time of our inspection of the E- Bike, its steering system & braking system could not be tested due to the damages as a result of the accident.

12. The 2 tyres of the E- Bike 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. Both tyres were sufficiently inflated for vehicular operation.



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

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