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Your Ref: E/20221028/0020 14 February 2023
Our Ref : CISPF/TPD23001612/N

General Investigation Team
Singapore Police Force
Ang Mo Kio Police Division HQ
51 Ang Mo Kio Ave 9
Singapore 569784

INSPECTION REPORT OF PERSONAL MOBILITY AID (PMA) - SINGAPORE POLICE FORCE REPORT NO. E/20221028/0020

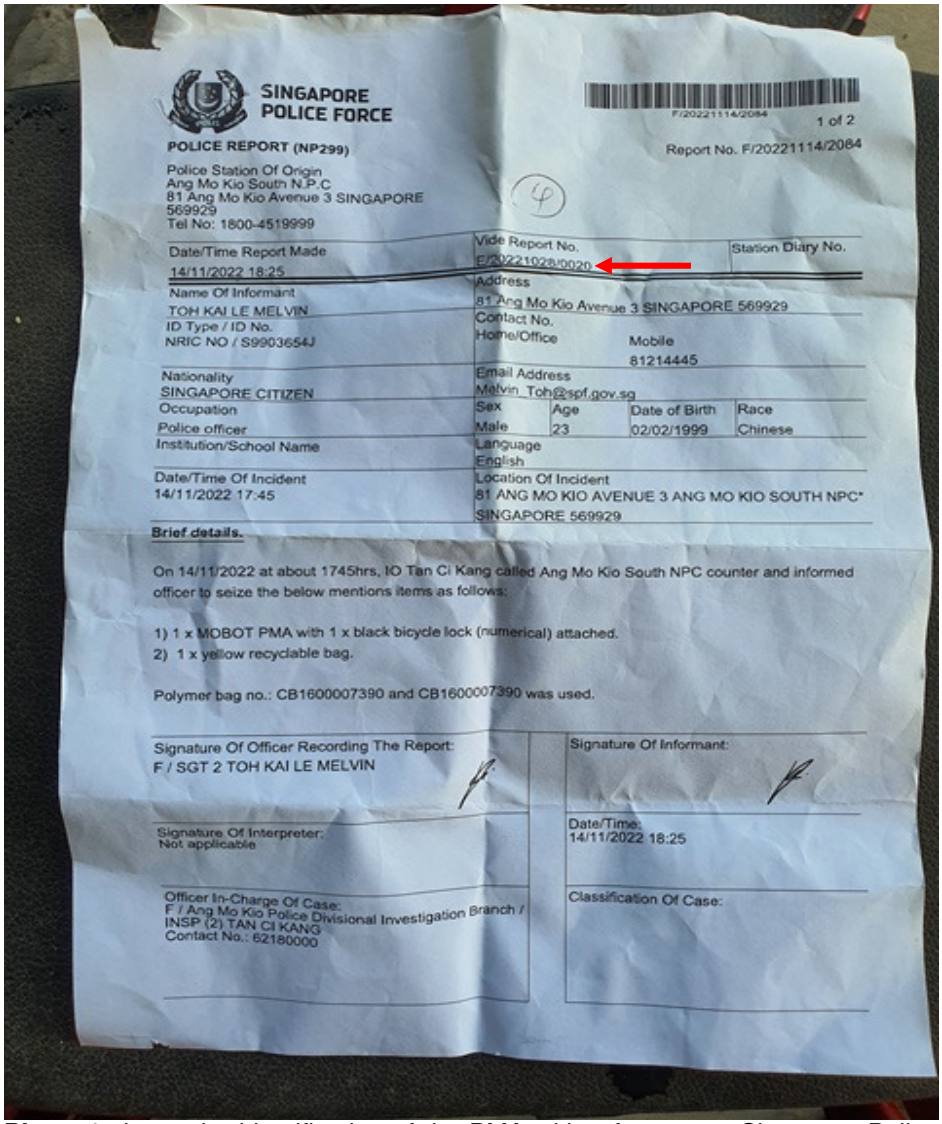
1. We refer to your request dated 15 November 2022 to conduct a physical inspection of a Personal Mobility Aid bearing Report no. E/20221028/0020 (herein referred to as **"PMA"**), which was involved in a fatal incident on 14 November 2022.

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

3. Following the request, we had carried out a physical inspection of the PMA on 14 February 2023 at the premises of Home Team Tactical Garage, 1 Gali Batu Close, Singapore 728635. We now set out below our observations and comments with respect to this inspection.

General Condition

4. The PMA was observed to have sustained damages all around. The body parts that were found to have been damaged include its right handlebar end, right side mirror and bottom cowlings, amongst others as a result of the accident. See photos 1 – 7 below.



SINGAPORE POLICE FORCE

F/20221114/2084 1 of 2

POLICE REPORT (NP299)

Report No. F/20221114/2084

Police Station Of Origin
Ang Mo Kio South N.P.C
81 Ang Mo Kio Avenue 3 SINGAPORE
569929
Tel No: 1800-4519999

Date/Time Report Made 14/11/2022 18:25	Vide Report No. F/20221028/0020	Station Diary No.
Name Of Informant TOH KAI LE MELVIN	Address 81 Ang Mo Kio Avenue 3 SINGAPORE 569929	
ID Type / ID No. NRIC NO / S9903654J	Contact No. Home/Office Mobile 81214445	
Nationality SINGAPORE CITIZEN	Email Address Melvin_Toh@spf.gov.sg	
Occupation Police officer	Sex Male	Age 23
Institution/School Name	Language English	
Date/Time Of Incident 14/11/2022 17:45	Location Of Incident 81 ANG MO KIO AVENUE 3 ANG MO KIO SOUTH NPC* SINGAPORE 569929	

Brief details.

On 14/11/2022 at about 1745hrs, IO Tan Ci Kang called Ang Mo Kio South NPC counter and informed officer to seize the below mentions items as follows:

1) 1 x MOBOT PMA with 1 x black bicycle lock (numerical) attached.
2) 1 x yellow recyclable bag.

Polymer bag no.: CB1600007390 and CB1600007390 was used.

Signature Of Officer Recording The Report: F / SGT 2 TOH KAI LE MELVIN	Signature Of Informant:
Signature Of Interpreter: Not applicable	Date/Time: 14/11/2022 18:25
Officer In-Charge Of Case: F / Ang Mo Kio Police Divisional Investigation Branch / INSP (2) TAN CI KANG Contact No.: 62180000	Classification Of Case:

Photo 1 shows the identification of the PMA with reference to Singapore Police Force Report No. E/20221028/0020 (arrowed).

Photo 2 shows a general view of the frontal portion of the PMA at the time of our inspection. The PMA was observed to have sustained damages all around.

Photo 3 shows a general view of the right body of the PMA at the time of our inspection. The PMA was observed to have sustained damages all around.

Photo 4 shows a general view of the rear portion of the PMA at the time of our inspection. The PMA was observed to have sustained damages all around. The body parts that were found to have been damaged include its right handlebar end, right side mirror and bottom cowlings, amongst others as a result of the accident.

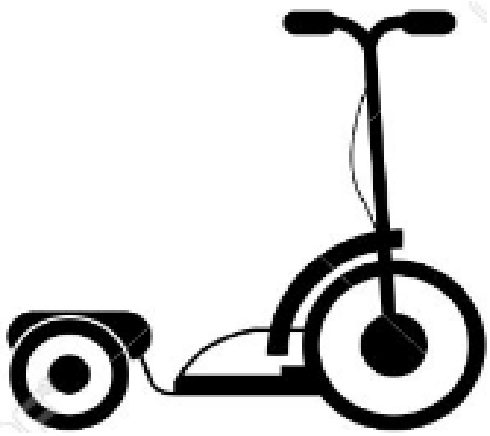
Photo 5 shows a closer view of the left bottom cowling (circled) of the PMA which was observed to be damaged due to the accident.

Photo 6 shows a closer view of the right bottom cowling (circled) of the PMA which was observed to be damaged due to the accident.

Photo 7 shows a closer view of the right handlebar end and right side mirror (arrowed) of the PMA which were observed to be damaged due to the accident

Tyres and Wheel Rims

5. The PMA's 3 tyres were observed to be in serviceable condition. The tread pattern of the rear 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 3 tyres. However we found the left sidewall of the left rear tyre to be grazed. The front tyre was also observed to be bald. The tyre size and remaining tread depth of the 3 tyres were recorded as follows:-



Z Ghua 10 X 2.50 (2mm) (RLT) (Grazed)
Z Ghua 10 X 2.50 (2mm) (RRT)

Xu Zhuo Rising Sun Tyre Co. Ltd.
200 X 50 (0mm)

6. The 3 tyres were wrapped around alloy wheel rims that were found to be without any significant damage. See photos 8 - 11 below.

Photo 8 shows the condition of the PMA's front tyre. The front tyre was observed to be in serviceable condition. 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 bald.

Photo 9 shows the condition of the PMA's right rear tyre. The right rear tyre was observed to be in serviceable condition with remaining tread depth of approximately 2mm. The right rear tyre was also observed to be sufficiently inflated for vehicular operation. There was no tear, burst mark(s) and/or punctured hole(s) on the sidewalls as well as across the tread of the right rear tyre.

Photo 10 shows the condition of the PMA's left rear tyre. The left rear tyre was observed to have remaining tread depth of approximately 2mm. The left rear tyre was also observed to be sufficiently inflated for vehicular operation. However we found the left sidewall of the left rear tyre to be grazed.

Photo 11 shows the left rear wheel rim and tyre of the PMA at the time of our inspection. Marks of grazing nature were observed on the left sidewall of the left rear tyre of the PMA (circled).

Drive Motor

7. The PMA is controlled by a brushless motor which is powered by a wireless battery pack to drive the front tyre. The motor was originally installed on the rear portion of the rear tyres & found adequately acceptable. The motor of the PMA was found to be intact without any misalignment or damages. It was also observed to be in operational condition. The wireless battery pack of the PMA was also found to be intact without any misalignment. See photos 12 - 14 below.

Photo 12 shows the general view of the brushless motor (arrowed) of the PMA which was observed to be intact with no misalignment.

Photo 13 shows the general view of the brushless motor of the PMA which was observed to be in operational condition (arrowed).

Photo 14 shows the wireless battery pack of the PMA (arrowed) which was found to be intact without any misalignment.

Steering System & Braking System

8. Our checks on the various steering components of the PMA revealed that its steering system was in serviceable condition. Its steering handlebar 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 braking system of the PMA was controlled by mechanical means (cables, calliper, brake disc and brake pads). Our visual examination of the various components in the brake system, like the left hand brake lever, left rear brake disc, right rear brake disc, brake pads and rear brake callipers, revealed all to be intact and without damage. There was also no visible tear or cut observed on the connecting hoses and cables.

10. A static brake test was conducted on the rear brakes of the PMA. There was some resistance felt upon pressing the left hand brake lever. This was further confirmed by looking at the rear brake pads while we pressed the left hand brake lever. It shows that the rear brake pads responded to the gripping action. The rear brake pads pressed against the left and right rear brake discs. This had appeared to indicate that the rear brakes of the PMA were in serviceable condition.

11. We subsequently carried out an operational test of the PMA's braking system. This was done by manually pushing the PMA forward and backward, simulating the PAB in motion, and thereafter engaging the front brake levers of the PMA. At the end of the short operational test, we did not observe any abnormal behaviour of the PMA's braking system. The rear wheels of the PMA were able to stop rotating immediately upon depressing the left hand brake lever. See photos 15 - 23 below.

Photo 15 shows the steering handlebar (arrowed) of the PMA. The steering handlebar of the PMA was found to be intact and undamaged. Turning the PMA's steering handlebar towards the left and right did not produce any abnormal free play. The steering system of the PMA was in serviceable condition at the time of our inspection.

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

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

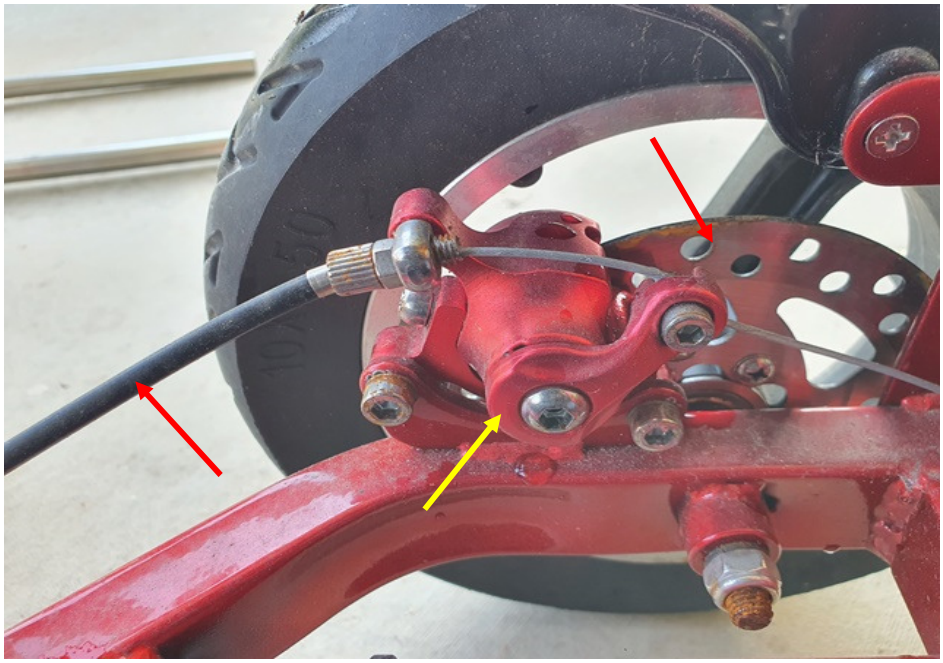


Photo 18 shows the rear right wheel of the PMA. The type of brake system for the rear right wheel was of a mechanical type, controlled by the left hand lever of the PMA. Our checks on the cable, calliper and right rear brake disc which are all part of the components in the right rear brake system of the PMA reveal all to be intact and without damage (arrowed).

Photo 19 shows a static brake test conducted on the PAB's rear right brake. There was some resistance felt upon pressing the left hand brake lever (arrowed). It also shows that the rear brake pads responded to the gripping action (circled) after depressing the left hand brake lever.

Photo 20 shows a close up view of the right rear brake pads responding to the gripping action. The rear right brake pads pressed against the right rear brake disc (arrowed) upon depressing the left hand brake lever. This had appeared to indicate that the right rear brake of the PMA was in serviceable condition.

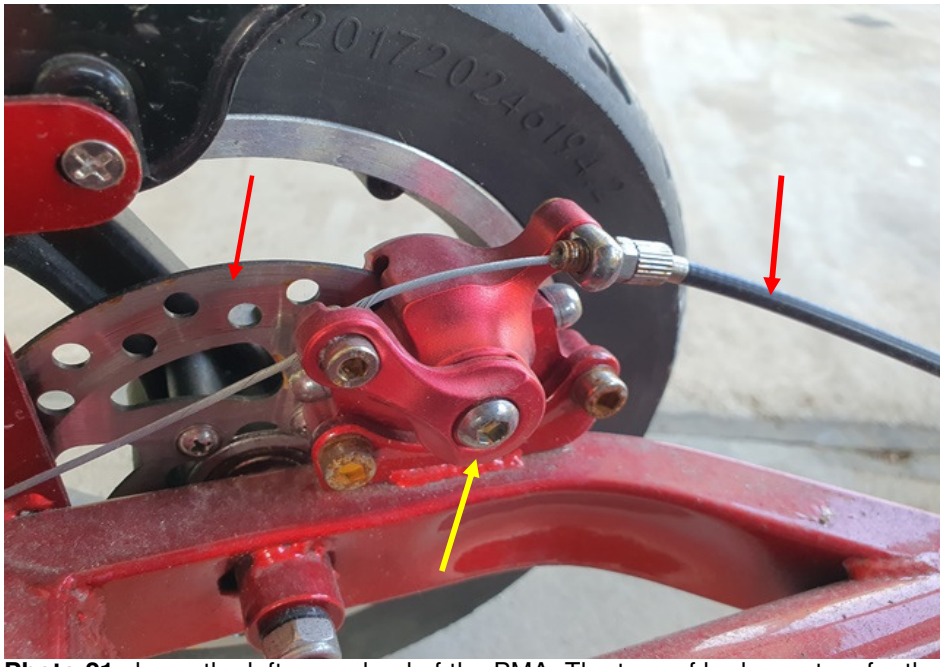


Photo 21 shows the left rear wheel of the PMA. The type of brake system for the rear right wheel was of a mechanical type, controlled by the left hand lever of the PMA. Our checks on the cable, calliper and left rear brake disc which are all part of the components in the left rear brake system of the PMA reveal all to be intact and without damage (arrowed).

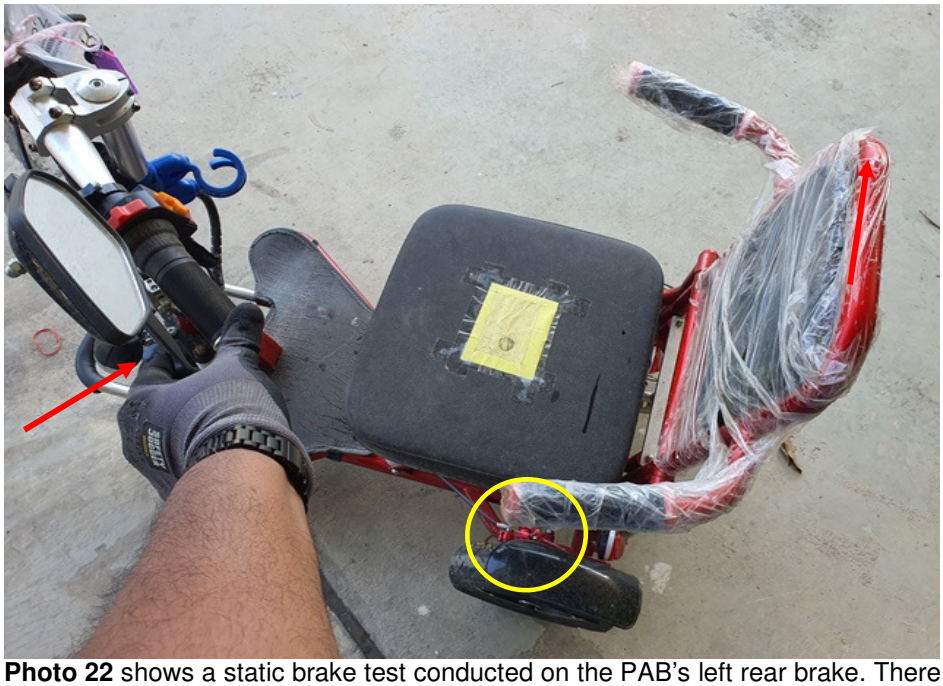


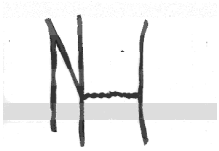
Photo 22 shows a static brake test conducted on the PAB's left rear brake. There was some resistance felt upon pressing the left hand brake lever (arrowed). It also shows that the rear left brake pads responded to the gripping action (circled) after depressing the left hand brake lever.

Photo 23 shows a close up view of the left rear brake pads responding to the gripping action. The left rear brake pads pressed against the left rear brake disc (arrowed) upon depressing the left hand brake lever. This had appeared to indicate that the left rear brake of the PMA was in serviceable condition.

Conclusion

12. From our physical inspection of the PMA, it appears that its drive system, steering system and braking system were all in serviceable condition. We did not find any evidence(s) to suggest that there was possible mechanical failure to the PMA that may have caused and/or contributed to the incident.

13. The 3 tyres of the PMA were also found to be in serviceable condition. 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 3 tyres. The 3 tyres were observed to be sufficiently inflated for vehicular operation. The tread pattern of the 2 rear tyres was clearly visible with remaining tread depth of approximately 2mm each, which had included the grazed left rear tyre. However the front tyre was observed to be bald at the time of our inspection.



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