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Your Ref: TP/IP/10241/2020
Our Ref : CI/TPD20005420/N

12 June 2020

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

INSPECTION REPORT OF MOTORCYCLE FY 6278Z

1. We refer to your request dated 2 April 2020 to conduct a physical inspection of a motorcycle bearing registration number FY 6278Z (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 22 February 2020.

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 13 May 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

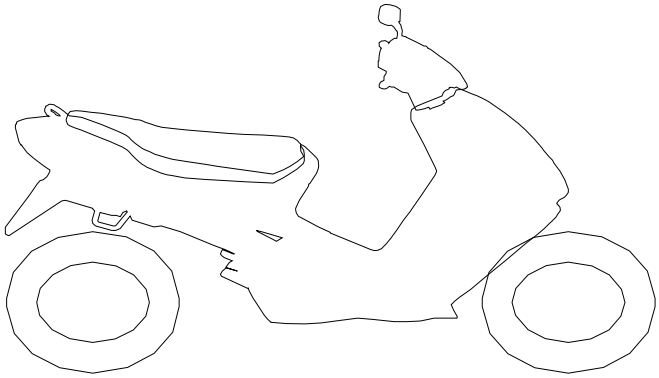
4. The mileage of the Motorcycle could not be recorded at the time of our inspection due to the damage sustained to the speedometer gauge.

5. The Motorcycle was observed to have sustained no damages.

Tyres and Wheel Rims

6. The condition of the 2 tyres of the Motorcycle was observed 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 2 tyres. Both the tyres were observed to be sufficiently inflated for vehicular operation.

7. The tyre brand, tyre size and remaining tread depth of the 2 tyres were recorded as follows:-



Metzeler 160/60 - 17 (4mm) Metzeler 120/60 - 17 (4mm)

8. The 2 tyres were wrapped around alloy wheel rims. At the time of our inspection, we did not observe any visible damage on the front and rear wheel rim of the Motorcycle. See photos 1 – 7 below.

Photo 1 shows the mileage of the Motorcycle which could not be recorded at the time of our inspection due to the damage sustained to the speedometer gauge (circled).

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

Photo 3 shows a general view of the right body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained no damages.

Photo 4 shows a general view of the left body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained no damages.

Photo 5 shows a general view of the rear portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained no damages.

Photo 6 shows the condition of the Motorcycle's front tyre. The front tyre was observed to be in serviceable condition with remaining tread depth of approximately 4mm. 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.

Photo 7 shows the condition of the Motorcycle's rear tyre. The rear tyre was observed to be in serviceable condition with remaining tread depth of approximately 4mm. 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 rear tyre.

Engine & Drive Train & Operating Fluids

9. 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 also no sign(s) or indication(s) of fluid leak observed around the engine area of the Motorcycle. The two- stroke (2T) oil, engine oil and engine coolant were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.

10. The gear chain of the Motorcycle was found to be intact without any misalignment. It was also adequately lubricated for operating purposes. See photos 8 – 13 below.

Photo 8 shows the left side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the left engine area of the Motorcycle.

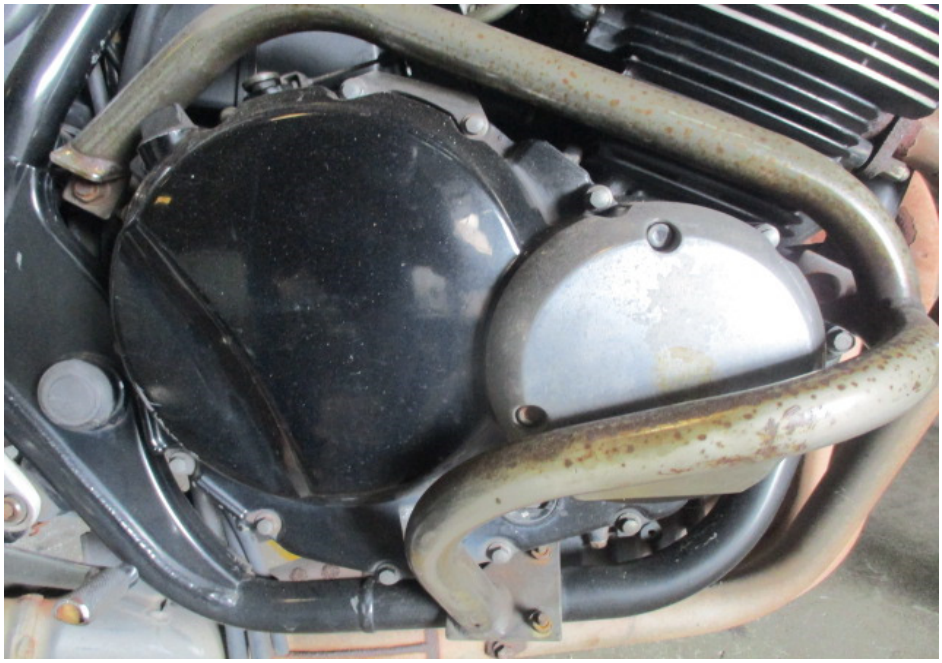


Photo 9 shows the right side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the right engine area of the Motorcycle.

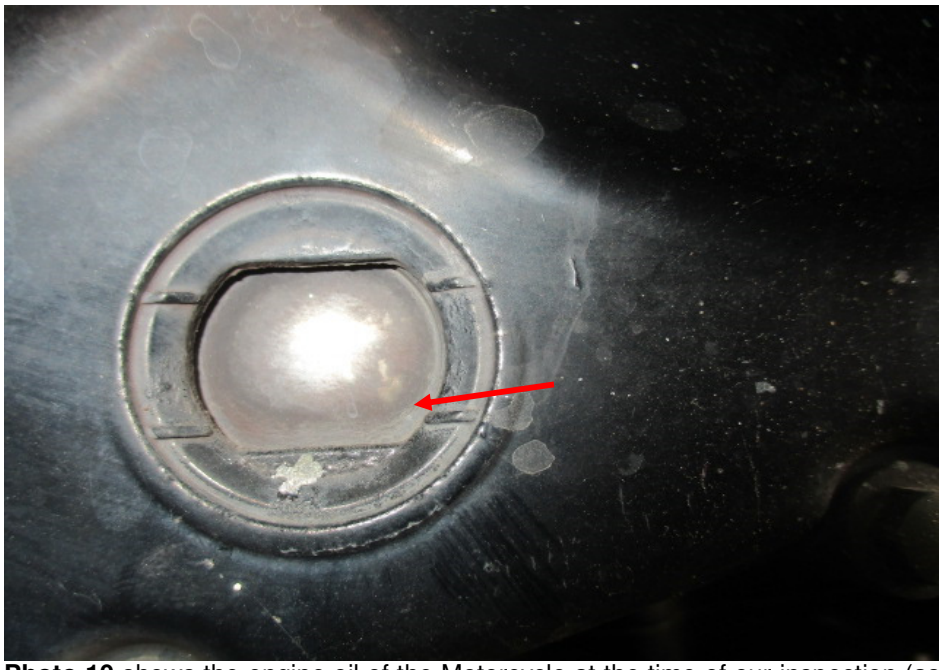


Photo 10 shows the engine oil of the Motorcycle at the time of our inspection (as viewed from the gauge level window). The engine oil was observed to be of sufficient level (arrowed) and without contamination for operational purposes.

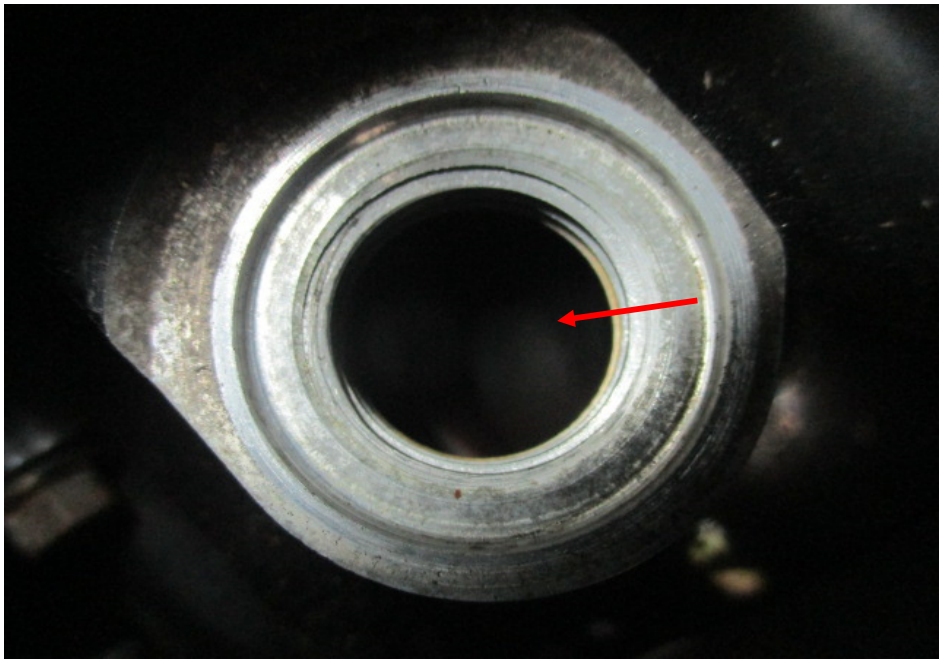


Photo 11 shows checks being carried out to the engine coolant of the Motorcycle at the time of our inspection. The engine coolant was observed to be of insufficient level (arrowed).

Photo 12 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.

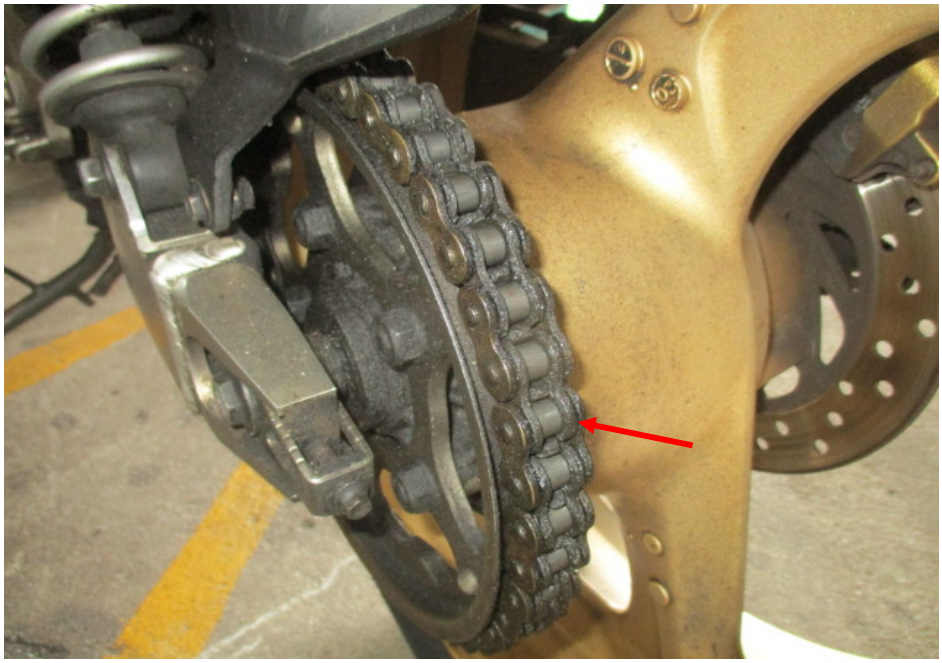


Photo 13 shows a closer view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

Steering System & Braking System

11. Our checks on the various steering components of the Motorcycle 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 also did not produce any abnormal free play and/or resistance.

12. The braking system of the Motorcycle was observed to be of a full hydraulic type, where hydraulic (brake fluid) pressure controls the brake for the front wheel and rear wheel. The brake for the front wheel is engaged by pressing 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.

13. Our visual examination of the various components in the Motorcycle's braking system like the brake discs, brake calipers, brake lever, brake foot pedal and brake hoses revealed all to be intact and without damage. There was also no leakage of brake fluid observed along the brake hoses. This was from the respective brake fluid reservoirs to the front brake calipers and rear brake caliper of the Motorcycle. The brake fluid for the front brake was found to be of sufficient level for operational purposes and without any contamination.

14. However the brake fluid for the rear brake was found to be of insufficient level for operational purposes.

15. Static brake tests conducted on the Motorcycle had appear to indicate that the front braking system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon pressing the brake lever. This would indicate that there was no leakage of pressure/vacuum in the front brake system. As for the rear braking system, there was some resistance felt (spongy like feel) upon stepping on the rear brake pedal. This could be due to remaining brake fluid in the rear brake caliper. However, due to the insufficient level of brake fluid in the rear brake reservoir, the rear braking system was found not to be in serviceable condition.

16. We subsequently carried out an operational test of the Motorcycle's front braking system. This was done by manually pushing the Motorcycle forward and backward, simulating the Motorcycle in motion, and thereafter engaging the front brake of the Motorcycle. At the end of the short operational test, we did not observe any abnormal behaviour of the Motorcycle's front braking system. The front wheel of the Motorcycle was able to stop rotating immediately upon depressing the front brake lever.

17. For this case, we attempted to ride the Motorcycle to test on its engine system and transmission system. When stationary, the 1st gear of the Motorcycle was able to be engaged without any difficulty by manually pressing and releasing the clutch lever. However, we heard abnormal sounds and/or observed abnormal behaviour of the Motorcycle's engine system. The engine would cut off when we attempted to ride the Motorcycle after engaging the 1st gear. Hence the engine system and transmission system were found not to be in working condition. See photos 14 – 22 below.

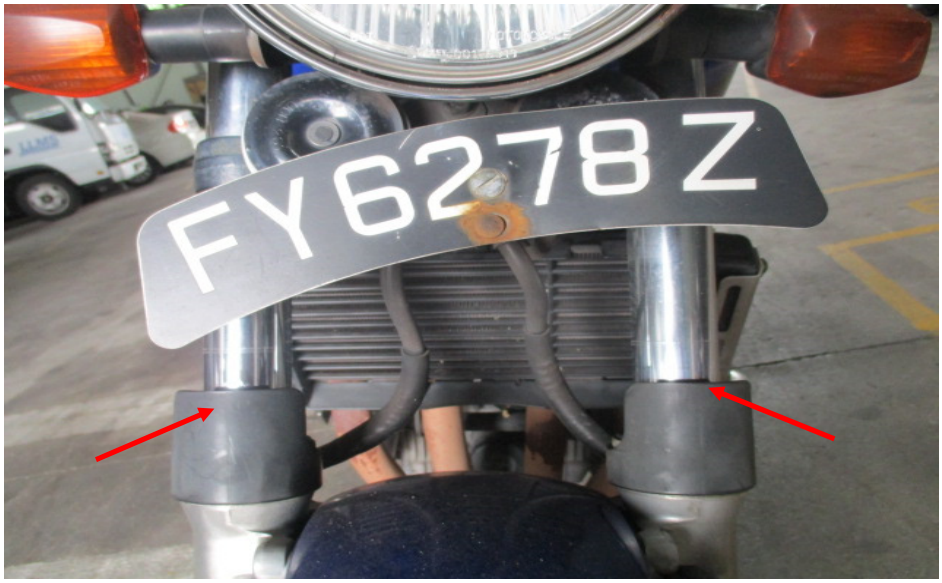


Photo 14 shows the front fork (arrowed) of the Motorcycle. The front fork and fork bracket of the Motorcycle were both found to be intact and undamaged. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. The steering system of the Motorcycle was in serviceable condition at the time of our inspection.

Photo 15 shows the front wheel of the Motorcycle turned towards its full right. Turning the Motorcycle's handle bar towards the left and right did not produce any abnormal free play and/or resistance. This would indicate that the steering system of the Motorcycle was in serviceable condition at the time of our inspection.

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

Photo 17 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) at the right side of the Motorcycle's front wheel, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

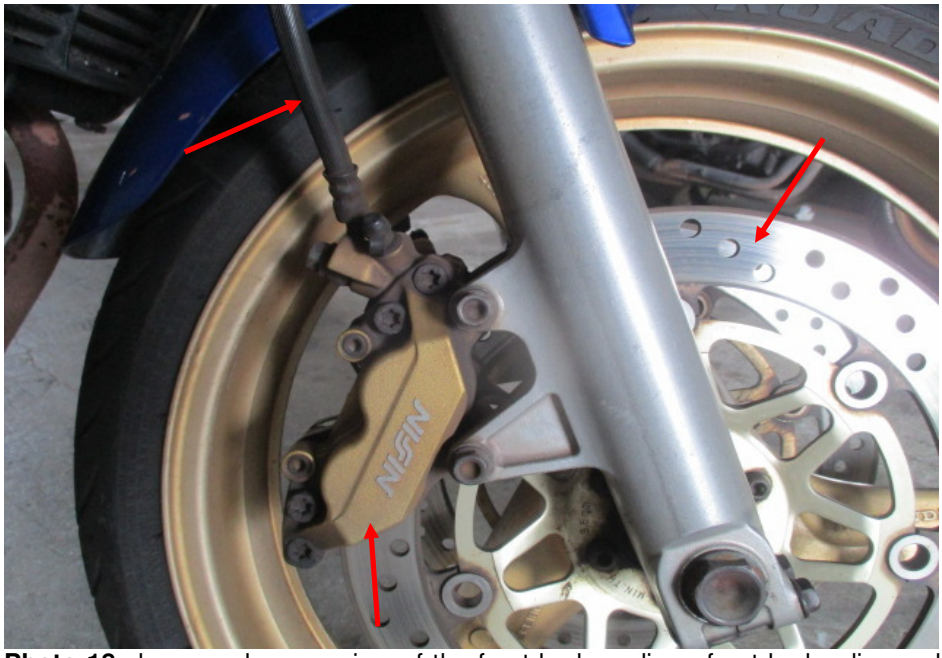


Photo 18 shows a close up view of the front brake caliper, front brake disc and front brake hose (arrowed) at the left side of the Motorcycle's front wheel, which are all part of the components in the hydraulic front brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

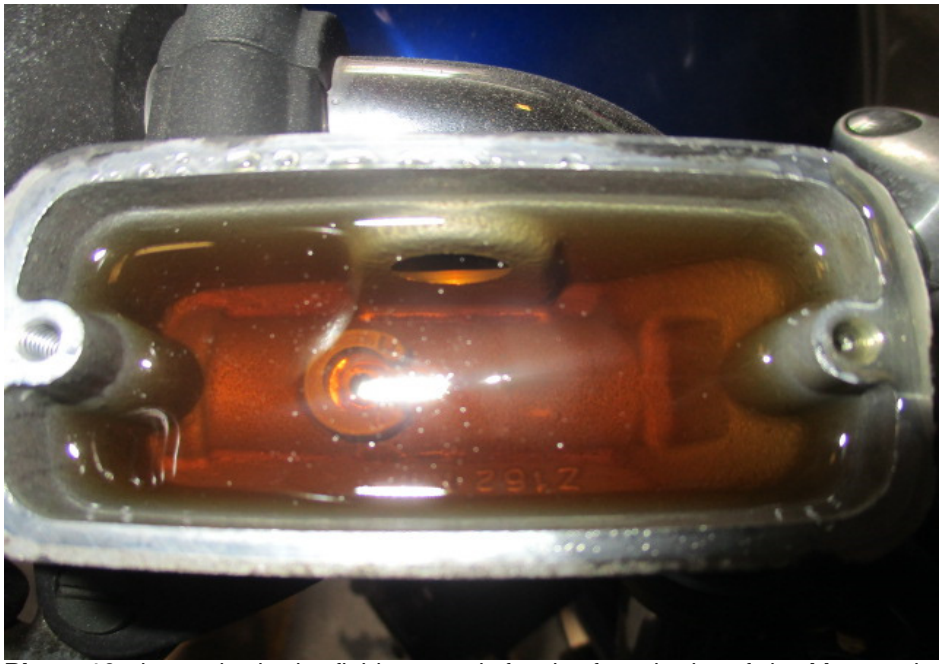


Photo 19 shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be of sufficient level and without contamination for operational purposes.

Photo 20 shows the front brake lever being depressed. There was some resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). This would indicate that there is no leakage of pressure/vacuum in the brake system.

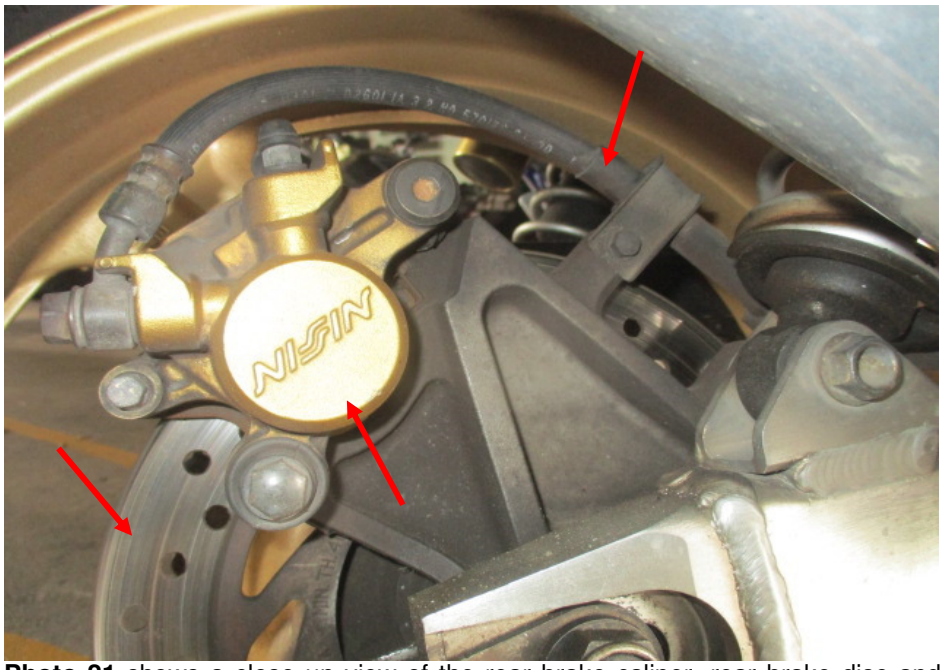


Photo 21 shows a close up view of the rear brake caliper, rear brake disc and rear brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic rear brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

Photo 22 shows the brake fluid reservoir for the rear brake of the Motorcycle. The brake fluid was observed to be of insufficient level for operational purposes.

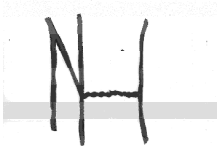
Conclusion

18. Basing on our physical inspection of the Motorcycle, it appears that the steering system and front braking system of the Motorcycle were all in serviceable condition.

19. The rear braking system of the Motorcycle was found not to be in serviceable condition.

20. The engine system and transmission system of the Motorcycle were found not to be in serviceable condition. This is also taking into consideration when attempting to ride the Motorcycle, there were sign(s) or symptom(s) to suggest that there was abnormality to its engine system and transmission system.

21. The 2 tyres of the Motorcycle 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 sufficiently inflated for vehicular operation with remaining tread depth of approximately 3mm each.



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