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Your Ref: TP/IP/08326/2022 5 September 2022
Our Ref : CI/TPD22005259/N

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

INSPECTION REPORT OF MOTORCYCLE FBH 6542Y

1. We refer to your request dated 30 May 2022 to conduct a physical inspection of a motorcycle bearing registration number FBH 6542Y (herein referred to as **"Motorcycle"**), which was involved in a fatal road traffic accident on 15 April 2022.

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 2 September 2022 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 at the time of our inspection was not recorded due to the damages sustained to the speedometer gauge as a result of the accident.

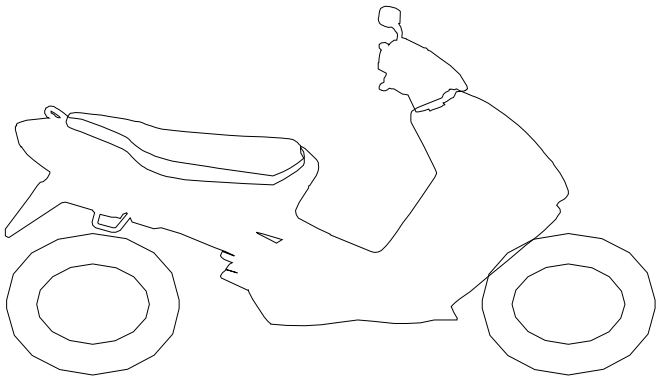
5. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its speedometer gauge, headlight assembly, side cowlings, handlebar, side mirrors, clutch lever, front brake lever, handlebar ends, radiator, exhaust headers, petrol tank, gear shift pedal, left front footrest, left rear side cover, left pillion grab rail and exhaust muffler, amongst others.

Tyres and Wheel Rims

6. The condition of the rear tyre 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 rear tyre. The rear tyre was observed to be sufficiently inflated for vehicular operation.

7. However we observed a tear on the front tyre. The front tyre was also observed to be deflated as a result of the accident.

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



Bridgestone 160/60 - 17 (4mm)

Bridgestone 120/70 - 17 (3mm)
Cut / Deflated

9. The 2 tyres were wrapped around alloy wheel rims. At the time of our inspection, we observed that the front wheel rim of the Motorcycle was broken. We also found that the rear wheel rim was bent. See photos 1 – 20 below.

Photo 1 shows a general view of the rear body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around.

Photo 2 shows a general view of the left body of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around.

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

Photo 4 shows a general view of the frontal portion of the Motorcycle at the time of our inspection. The Motorcycle was observed to have sustained damages all around. The body parts that were found to have been damaged include its speedometer gauge, headlight assembly, side cowlings, handlebar, side mirrors, clutch lever, front brake lever, handlebar ends, radiator, exhaust headers, petrol tank, gear shift pedal, left front footrest, left rear side cover, left pillion grab rail and exhaust muffler, amongst others.

Photo 5 shows a closer view of the damaged speedometer gauge of the Motorcycle. The mileage of the Motorcycle at the time of our inspection was not recorded due to the damage sustained to the speedometer display screen as a result of the accident.

Photo 6 shows a closer view of the headlight assembly (circled) which was amongst the body parts at the front body of the Motorcycle that had sustained damage as a result of the accident.

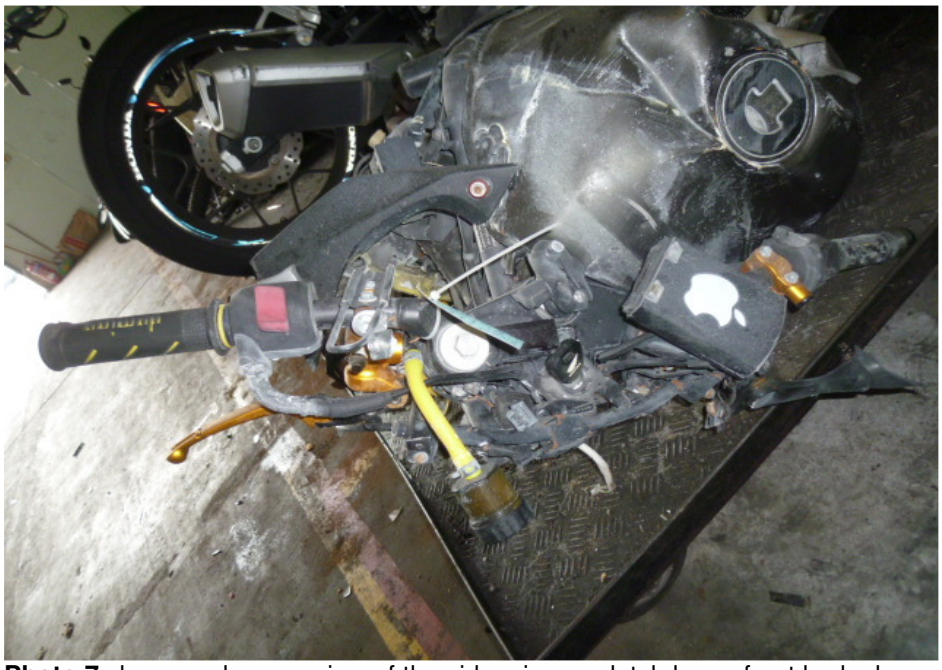


Photo 7 shows a close up view of the side mirrors, clutch lever, front brake lever, handlebar and handlebar ends of the Motorcycle. These parts were amongst the body parts of the Motorcycle which were damaged as a result of the accident.

Photo 8 shows the deformed radiator of the Motorcycle as a result of the accident.

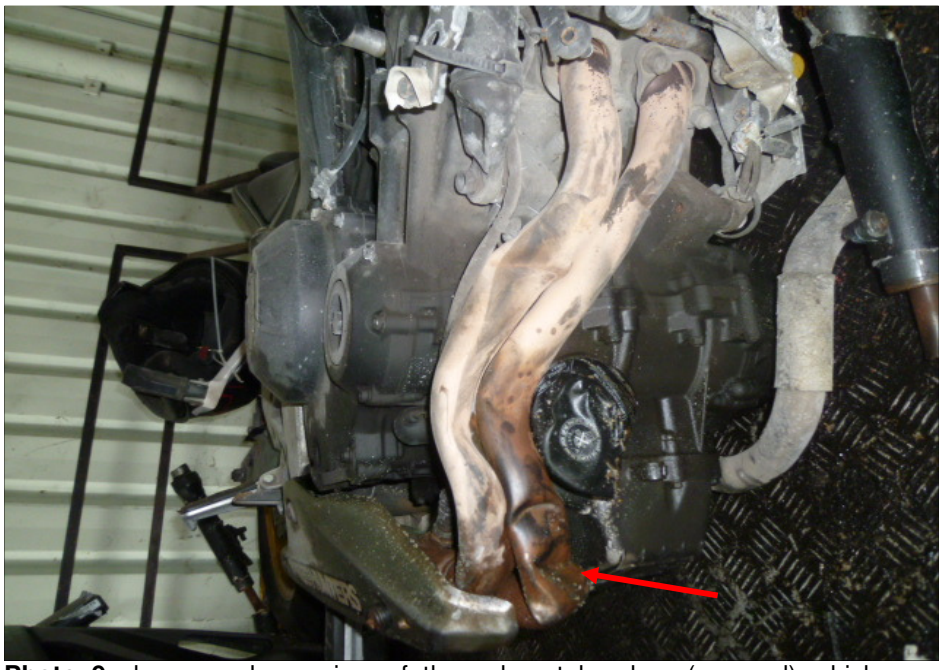


Photo 9 shows a closer view of the exhaust headers (arrowed) which was amongst the body parts at the front body of the Motorcycle that had sustained damage as a result of the accident.

Photo 10 shows a closer view of the petrol tank, which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

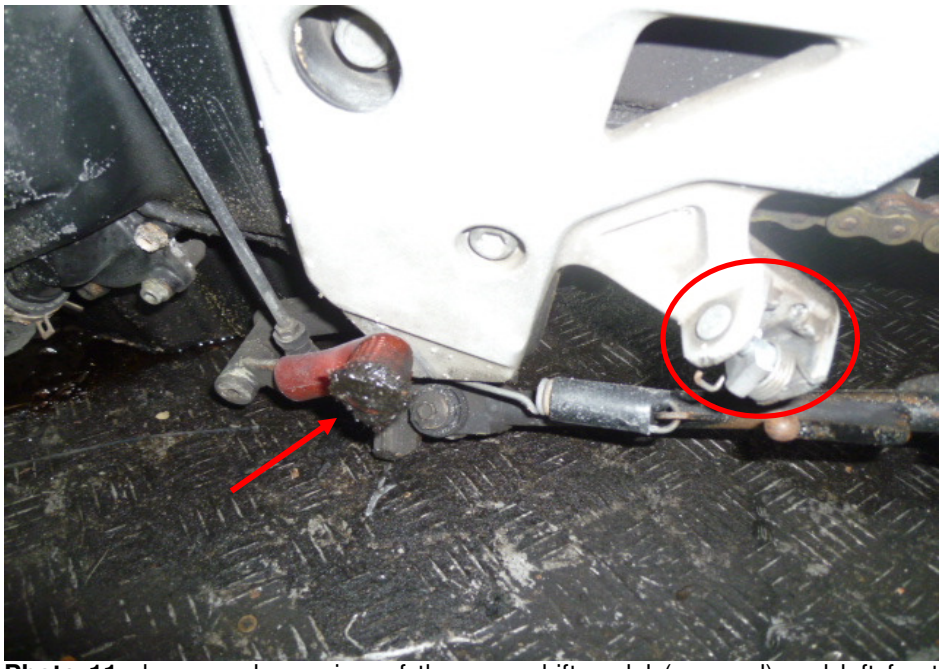


Photo 11 shows a closer view of the gear shift pedal (arrowed) and left front footrest (circled) which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 12 shows a closer view of the left rear side cover (arrowed) which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 13 shows the left pillion grab rail (arrowed) which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 14 shows the left rear signal lamp (circled) which was amongst the body parts of the Motorcycle that had sustained damage as a result of the accident.

Photo 15 shows the dislodged exhaust muffler of the Motorcycle as a result of the accident.

Photo 16 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. However the tyre was observed to be deflated. We also observed a tear on the front tyre as a result of the accident (circled).

Photo 17 shows a closer view of the tear on the front tyre as a result of the accident (arrowed).

Photo 18 shows the broken front wheel rim of the Motorcycle at the time of our inspection.

Photo 19 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.

Photo 20 shows the bent rear wheel rim (circled) of the Motorcycle at the time of our inspection.

Engine & Drive Train

10. Upon examination of the engine area of the Motorcycle, we had observed that the various engine related parts and components on the right side of the Motorcycle were intact with no visible damage. There was also no fluid leak and/or fluid stain found around the right engine area of the Motorcycle. The various left engine components had sustained damage of grazing nature as a result of the accident. Wet fluid stains were observed on the underside of the damaged left engine cover of the Motorcycle as well as on the ground, indicating that a fluid leak had occurred as a result of the accident.

11. The gear train of the Motorcycle, which rotates the rear wheel of the Motorcycle, was found to be in serviceable condition and without any misalignment. It was also adequately lubricated for operating purposes. See photos 21 – 25 below.

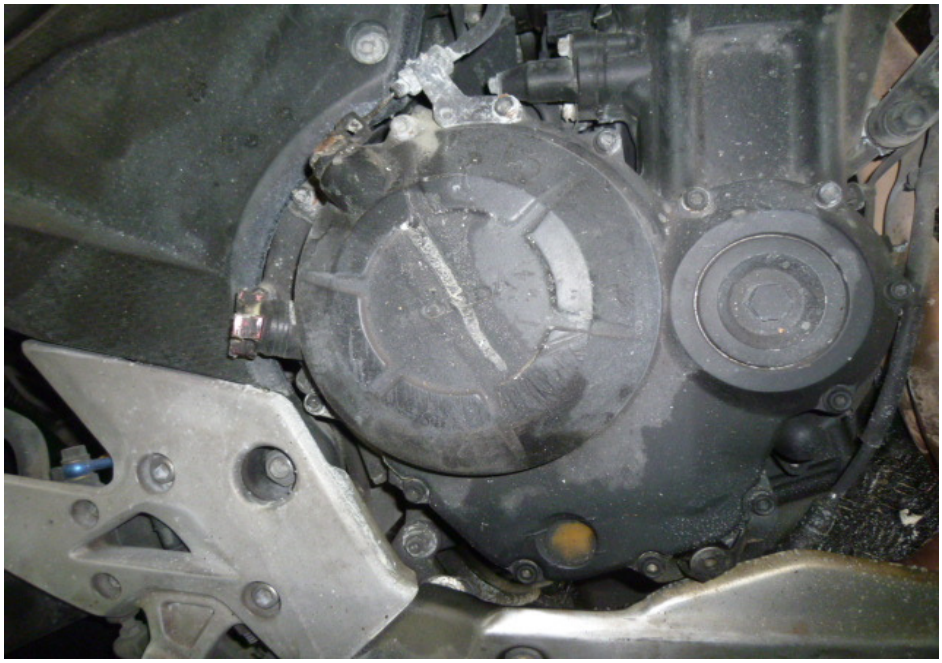


Photo 21 shows the right side of the engine of the Motorcycle at the time of our inspection. The various engine related parts and components were found to be intact with no visible damage. There was also no sign(s) or indication(s) of fluid leak observed around the right engine area of the Motorcycle.

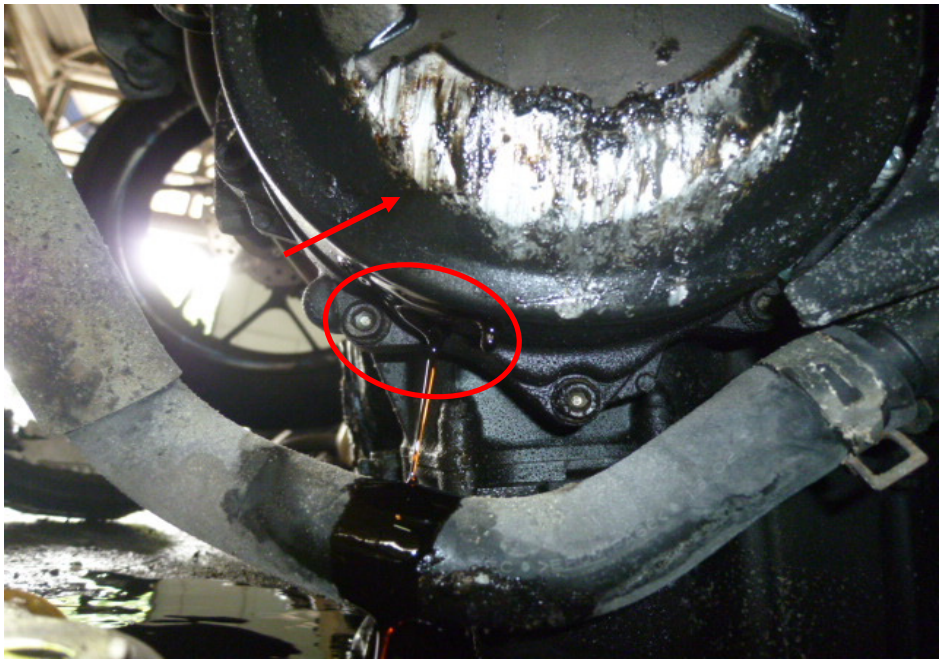


Photo 22 shows the left side of the engine of the Motorcycle at the time of our inspection. The various left engine components had sustained damage of grazing nature as a result of the accident (arrowed). Wet fluid stains were observed on the underside of the damaged left engine cover of the Motorcycle (circled).

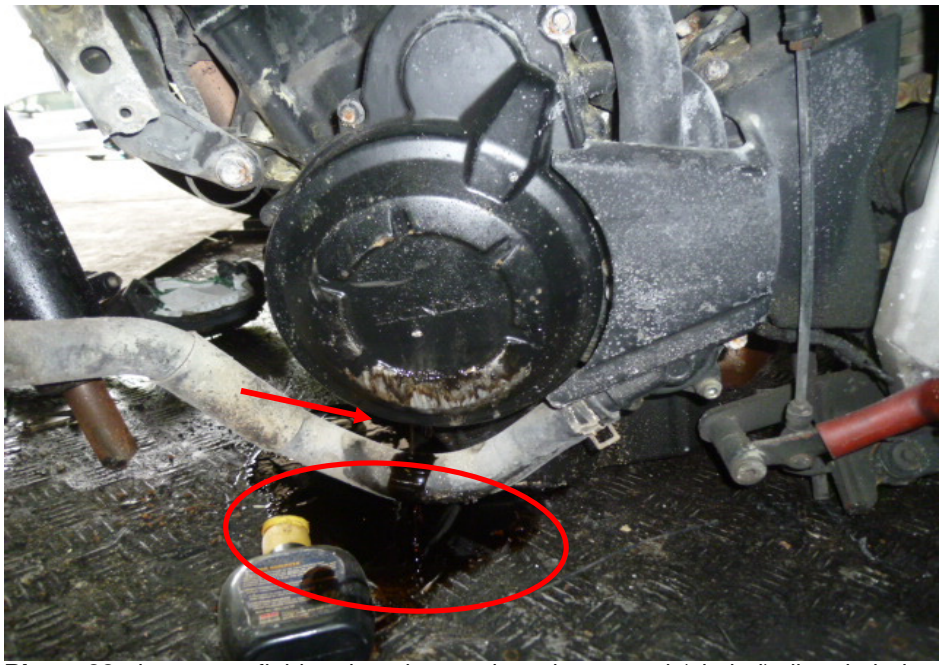


Photo 23 shows wet fluid stains observed on the ground (circled) directly below the damaged left engine cover of the Motorcycle (arrowed), indicating that a fluid leak had occurred as a result of the accident.

Photo 24 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.

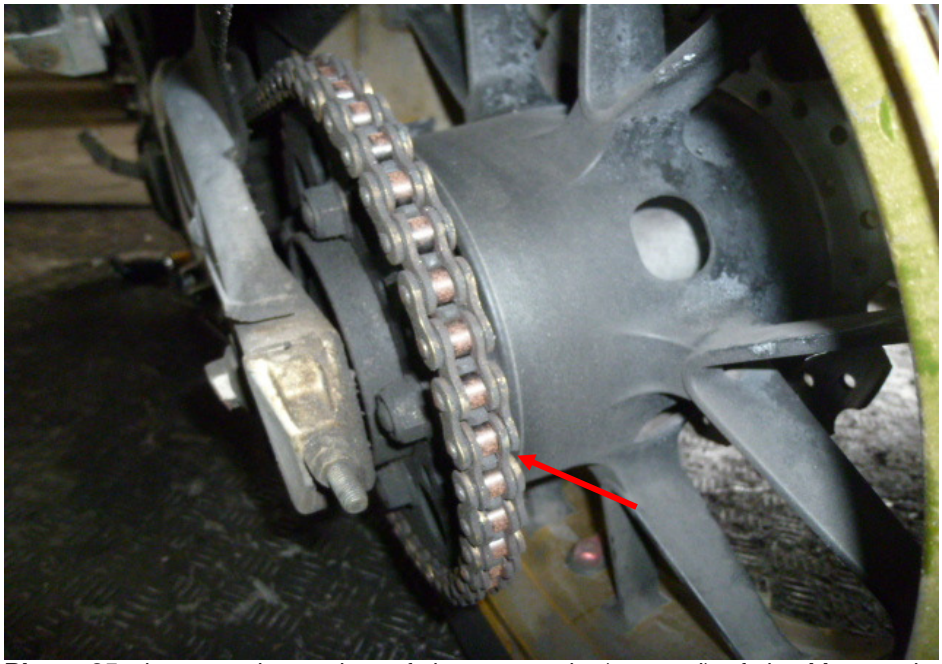


Photo 25 shows a closer view of the gear train (arrowed) of the Motorcycle, which was observed to be intact with no misalignment. It was also adequately lubricated for operating purposes.

Steering System & Braking System

12. For this case, we were not able to conduct any test(s) on the steering system of the Motorcycle due to the damage of its front forks. The front forks were found to be broken as a result of the accident.

13. 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.

14. Our visual examination of the various components in the Motorcycle's rear braking system like the brake disc, brake caliper, brake foot pedal and brake hose revealed all to be intact and without damage. There was also no leakage of brake fluid observed along the rear brake hose. This was from the respective brake fluid reservoir to the rear brake caliper of the Motorcycle. We were unable remove the rear brake reservoir cover to examine whether the rear brake fluid was without contamination due to a worn out screw. However the rear brake fluid was observed to be of sufficient level for operational purposes.

15. Our visual examination of the various components in the Motorcycle's front braking system like the brake disc, brake caliper, brake lever and brake hose revealed only the front brake disc and brake lever to be intact and without damage. The front brake caliper and front brake hose were observed to be missing as a result of the accident. There was also leakage of brake fluid observed along the front brake hose. This was from the respective front brake fluid reservoir to the front brake caliper of the Motorcycle. The brake fluid for the front brake was found to be of sufficient level for operating purposes and without any contamination.

16. Static brake tests conducted on the front braking system of the Motorcycle had appear to indicate that the front braking system of the Motorcycle was not in serviceable condition. There was no resistance felt (spongy like feel) upon pressing the brake lever. This would indicate that there was a leakage of pressure/vacuum in the front brake system. Upon closer examination, we observed that the front brake hose of the Motorcycle was cut. Brake fluid was also found to be leaking from the cut front brake hose.

17. Static brake tests conducted on the rear braking system of the Motorcycle had appear to indicate that the rear braking system of the Motorcycle was in serviceable condition. There was some resistance felt (spongy like feel) upon stepping on the rear brake pedal. This would indicate that there was no leakage of pressure/vacuum in the rear braking system.

18. For this case, we were not able to carry out any operational tests to the steering system and braking system of the Motorcycle due to the damage of its front forks, which had rendered the Motorcycle immobile for the operational tests. We were not able to push the Motorcycle manually forward and backward, simulating movement of the Motorcycle, for the operational tests. See photos 26 – 32 below.

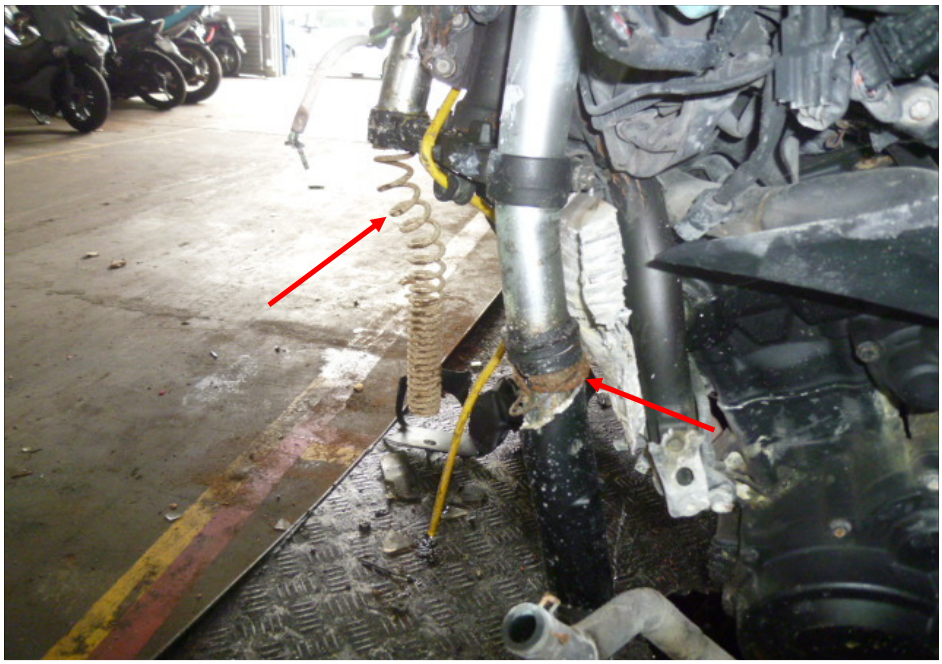


Photo 26 shows the front forks of the Motorcycle. The front forks (arrowed) were observed to be broken as a result of the accident. We were hence not able to conduct any tests on the steering system of the Motorcycle.

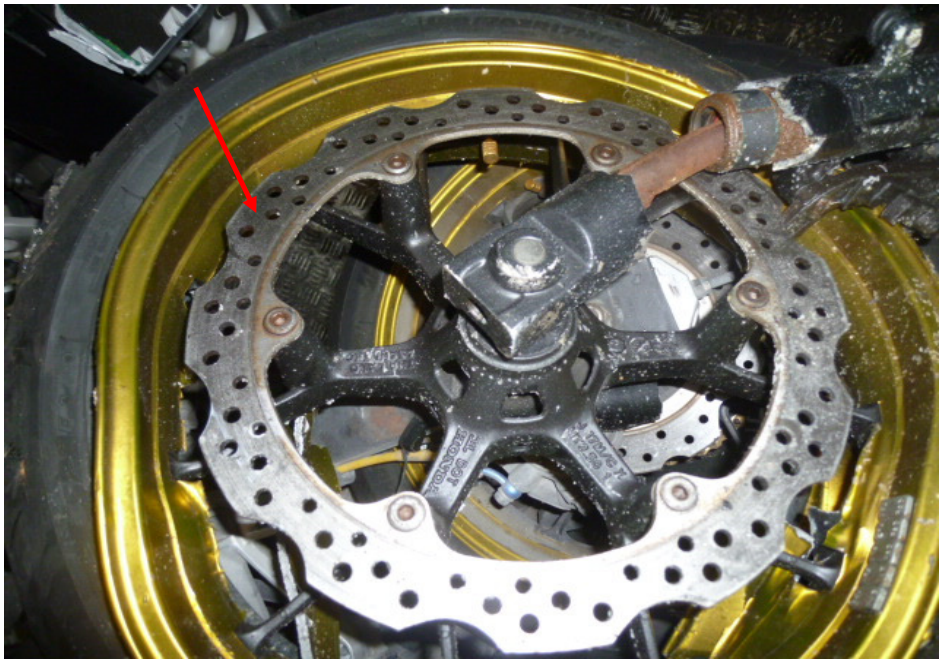


Photo 27 shows a close up view of the front brake caliper, front brake disc and front brake hose of the Motorcycle's front wheel, which are all part of the components in the hydraulic front brake system of the Motorcycle. The front brake caliper and front brake hose were observed to be missing upon our inspection. Our visual checks of the front brake disc (arrowed) had revealed it to be intact with no visible damage. No leakage of brake fluid was also observed.

Photo 28 shows the brake fluid reservoir for the front brake of the Motorcycle. The brake fluid was observed to be of sufficient level for operational purposes and without contamination.

Photo 29 shows the front brake lever being depressed. There was no resistance felt (spongy like feel) upon pressing the front brake lever (arrowed). This would indicate that there is leakage of pressure/vacuum in the front brake system. Upon closer examination, we observed that the front brake hose of the Motorcycle was cut.

Photo 30 shows the front brake hose for the front brake of the Motorcycle. The front brake hose was observed to be cut as a result of the accident (arrowed). Brake fluid was also found to be leaking from the cut front brake hose (circled).

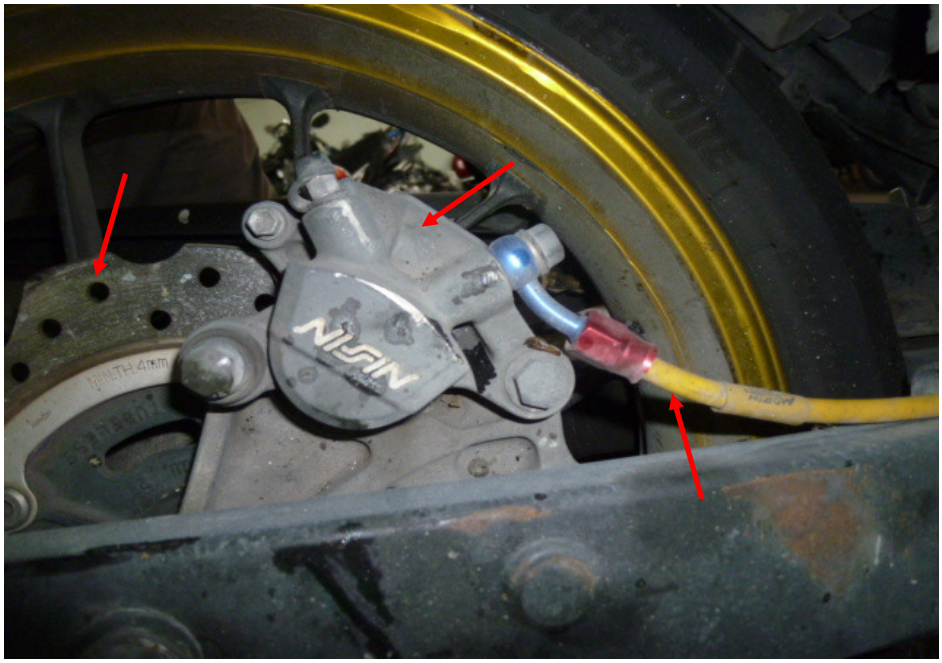


Photo 31 shows a close up view of the rear brake caliper, rear brake disc and rear brake hose (arrowed) of the Motorcycle, which are all part of the components in the hydraulic rear brake system of the Motorcycle. Our visual checks of these various components had revealed all to be intact with no visible damage. No leakage of brake fluid was also observed.

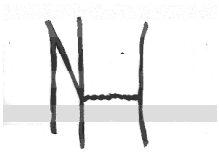
Photo 32 shows the brake fluid reservoir cover for the rear brake of the Motorcycle. We were unable to examine whether the rear brake fluid was without contamination due to the worn out screw (circled). However the rear brake fluid was observed to be of sufficient level for operational purposes.

Conclusion

19. For this particular case, we were unable to determine whether there was any possible mechanical failure to the Motorcycle that may have contributed to the accident. This was mainly due to the extent of damage that it had sustained. Its steering system and front braking system were all damaged as a result of the accident. The rear braking system of the Motorcycle was observed to be in serviceable condition.

20. The 2 tyres of the Motorcycle were found to be in serviceable condition (which had included the torn 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 rear tyre. The rear tyre was sufficiently inflated for vehicular operation. Both tyres had remaining tread depth of approximately 3mm and 4mm.

21. Our findings were based solely on a static and visual inspection of the Motorcycle. No operational test(s) could be carried out to the Motorcycle due to the damage of its front forks (as a result of the accident), which had rendered the Motorcycle immobile.



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