

Your Ref : MC/MC Suit No. 7713 Of 2019
Our Ref : CI/LAW20010134/D

26 September 2020

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ROAD TRAFFIC ACCIDENT INVOLVING SLL 601K & SLH 1575S ON 14 JANUARY 2018

1. I refer to your request dated 01 September 2020 to comment on whether the tyre puncture to SLH 1575S (herein referred to as "**Defendant Vehicle**") caused it to skid, leading to the accident with SLL 601K (herein referred to as "**Plaintiff Vehicle**") on 14 January 2018.
2. The following documents were provided to me for my review and consideration in the preparation of this report: -
 - a) Affidavit of Evidence in Chief of the driver of the Plaintiff Vehicle dated 17 September 2019 (herein referred to as "**PAEIC**"); and
 - b) Affidavit of Evidence in Chief of the driver of the Defendant Vehicle dated 11 September 2019 (herein referred to as "**DAEIC**").
3. I now set out below my findings and analysis based purely on my review of the documents that were made available to me.

Nature of Accident

4. Both PAEIC and DAEIC provided for my review had contain the circumstance of accident as described by the driver of the Plaintiff Vehicle (herein referred to as "**Plaintiff**") and the driver of the Defendant Vehicle (herein referred to as "**Defendant**"). The respective accounts of the accident are summarized in the following paragraphs.
5. The Plaintiff had said in paragraph 4 to paragraph 6 of PAEIC that he was driving along the right lane of Potong Pasir Avenue 1 towards the direction of Potong Pasir Avenue 3 at an approximate speed of 30kmph to 40kmph. The Defendant Vehicle was on the left lane along the same roadway. The weather was clear, but the road surface was wet at the material time.

6. In paragraph 7 to paragraph 9 of PAEIC, the Plaintiff said that the Defendant Vehicle was waiting for a vehicle in front to turn left onto Potong Pasir Avenue 2. The Plaintiff Vehicle was proceeding straight to enter the junction of Potong Pasir Avenue 1 and Potong Pasir Avenue 2 when the Defendant Vehicle suddenly swerved to the right wanting to make a U-turn and in doing so, collided onto the left front of the Plaintiff Vehicle. This was after the vehicle in front of the Defendant Vehicle had made the left turn. The impact caused the Plaintiff Vehicle to be pushed further to the right.
7. I note in paragraph 10 of PAEIC, that after the accident, the Plaintiff Vehicle was driven to the opposite side of the road to wait for a tow truck. The Defendant Vehicle was driven off.
8. The Defendant's account of the accident can be found in paragraph 6 & 7 of DAEIC. In paragraph 6, the Defendant said that he was travelling along the left lane of Potong Pasir Avenue 1. It was raining and road surface was wet.
9. In paragraph 7, when approaching the traffic light junction of Potong Pasir Avenue 1 and Potong Pasir Avenue 2, the Defendant said that he applied the brake, but the Defendant Vehicle kept skidding to the right side/right lane and that he was not able to keep the Defendant Vehicle to the left lane. The Defendant further said that he felt an impact at the right side and realized that the Plaintiff Vehicle had collided onto the right-side door portion of the Defendant Vehicle.
10. I note in paragraph 8 of DAEIC that after the accident, upon alighting and inspecting the Defendant Vehicle, the Defendant said that he realized that the rear right tyre of the Defendant Vehicle was punctured. It was also said that the puncture had caused the Defendant Vehicle to skid/move to the right lane. I further note in paragraph 11 of DAEIC, that the Defendant Vehicle was subsequently towed.

Analysis, Comments & Opinions

11. Firstly, the rear right tyre of the Defendant Vehicle was not available for inspection. However, the photographs attached in the Defendant's accident report, in particular the photographs exhibited at page 18, 19, 25 and 27 of DAEIC, had showed the rear right tyre of the Defendant's Vehicle punctured but still intact and wrapped around the rear right wheel rim. The rear right tyre was not torn/shredded. There was also no hole and/or cut mark(s) observed on the outer sidewall of the tyre. See photo 1 and 2 below.



Photo 1 shows the rear right tyre of the Defendant Vehicle (photograph exhibited at page 25 of DAEIC). The rear right tyre of the Defendant's Vehicle was observed to be punctured. The rear right tyre was not torn/shredded. No hole and/or cut mark(s) was observed on the outer sidewall of the tyre.



Photo 2 shows the rear right tyre of the Defendant Vehicle (photograph exhibited at page 19 of DAEIC). The rear right tyre of the Defendant's Vehicle was observed to be punctured as seen from the bulge at the area of the tyre that is resting on the ground (arrowed). The tyre was however still intact and wrapped around the rear right wheel rim.

12. Although there was no photograph(s) showing the inner sidewall and no clear photograph(s) showing the tread of the rear right tyre, the fact that the rear right tyre was still intact and wrapped around the rear right wheel rim indicates to me that there was also no hole and/or cut mark(s) on the inner sidewall of the rear right tyre. The presence of a hole(s) and/or cut mark(s) would typically lead to a rapid loss of pressurized air from within the tyre and when the vehicle is moving, the tyre will slip out from the wheel rim as the tyre will no longer be able to hold its shape around the wheel rim given the lack of pressurized air.
13. The lack of any impact mark(s) and/damage observed on the rear right wheel rim and exterior body parts of the Defendant Vehicle surrounding the immediate area of the rear right wheel indicates that the puncture was not a result of an accident collision and/or impact with an object.
14. Generally, the condition of the rear right tyre of the Defendant Vehicle as seen in the photographs is a condition that one would typically see or come across when a tyre is punctured by a small sharp object like a nail or screw that has pierced into the core of the tyre at the tread area, but remain embedded in the tyre. By remaining embedded into the tyre, the object provides some sealing effect, and hence any loss of pressurized air is gradual for tyre puncture incidents. Refer to illustration below for an easy understanding of the different areas of a tyre that I had referred to and will be referring to in this report.



15. Since the rear right tyre of the Defendant Vehicle was still intact and wrapped around the rear right wheel rim without any tear or shredding and also no hole and/or cut mark(s) seen, it would then be reasonable to ascertain that the rear right tyre of the Defendant Vehicle did not burst. In other words, for this particular case, the physical condition of the rear right tyre does not seem to suggest a case where a tyre had burst but rather it would be a case akin to a typical tyre puncture.
16. For a brief explanation, bursting of tyre occurs due to a sudden rapid loss of pressurized air from within a tyre. The structural integrity of a tyre may possibly be compromised when there is excessive heat build up on or from within the tyre (hot air expands). When a tyre is unable to hold all the pressurized air inside due to heat expansion, the pressurized air escapes by tearing through the tyre rapidly, causing severe physical damage to the tyre surface like a hole or tear to the tyre.
17. Under such sudden loss of pressurized air from the tyre, a driver will experience sudden pulling or veering of the vehicle to the side where the tyre had burst. Because of the sudden nature of such incidents, a driver may be unable to react and thus loss control of the vehicle. Some causes of excessive heat build up on or from within the tyre include under inflated tyre, overloading of tyre, friction between the road surface and tyre, and over speed, amongst others.
18. In contrast, for tyre puncture incidents, the loss of pressurized air within the tyre occurs gradually, which I had explained in paragraph 14. More often than not, a driver will still be able to control the vehicle as the loss of pressurized air is gradual and may be unnoticed till a bulge is formed at the area of the tyre that is resting on the ground, like in photograph 2 above; or when the driver hears thumping sounds as the punctured tyre rotates along the road surface when driving. For puncture at the front wheels of a vehicle, a driver will also experience his steering wheel pulling to the side of the punctured tyre.
19. For punctured tyre, a driver will need to repair or replace the punctured tyre as continued driving will cause the punctured tyre to burst due to excessive heat build up from the under inflated tyre. See photo 3 below, which is purely to illustrate the physical difference of a burst tyre and a puncture tyre.



Photo 3 shows a tyre that has its outer sidewall torn (arrowed). Such physical condition is typically seen when a tyre burst. Rapid loss of pressurized air occurs when the pressurized air gushes out from the hole. A driver can lose control of a vehicle due to the sudden and rapid loss of pressurized air. Note the physical difference between this tyre and the rear right tyre of the Defendant Vehicle as shown in photograph 2 above, and other photographs exhibited in page 18, 19, 25 and 27 of DAEIC.

20. For this case, the puncture was to the rear right wheel of the Defendant Vehicle. The rear wheels of a vehicle are trailing wheels, in other words, the rear wheels follow the travelling path of the front wheels. Unlike the front wheels, the rear wheels do not turn left or right. To hold a vehicle in a steady travelling path, a driver does so via the steering wheel and linkages attached to the front wheels of a vehicle. Hence, a driver would have been able to still control, steer and manage a vehicle with a punctured rear right tyre.
21. I note that the front tyres and wheels of the Defendant Vehicle were in serviceable condition (undamaged and sufficiently inflated as seen from the photographs exhibited in PAEIC and DAEIC). The puncture to the rear right tyre of the Defendant Vehicle would therefore not affect the steering, control and managing of the Defendant Vehicle. In fact, the Plaintiff had said in paragraph 10 of PAEIC that the Defendant had drove off from the accident scene. This is supported by the photographs that were attached in the Defendant's accident report, which are exhibited at page 12 to 28 of DAEIC.

22. The ground where the Defendant Vehicle was resting and the background seen in the photographs exhibited in page 18 and 19 of DAEIC was clearly different from the ground and background seen in the photographs exhibited in page 12 to 16, and page 20 to 28 of DAEIC. Photographs at page 18 and 19, showing the puncture to the rear right tyre, seems to have been taken at an open-air public carpark, at a time when the Defendant Vehicle was reversed parked inside a parking lot whereas the photographs at page 12 to 16 were taken at the accident scene; and the photographs at page 20 to 28 appears to have been taken at a workshop. See photo 4 - 6 below.



Photo 4 shows the Defendant Vehicle (exhibited at page 18 of DAEIC), which appears to have been taken at an open-air public carpark whilst the Defendant Vehicle was reversed parked inside a parking lot. The photograph was in relation to the Defendant showing the puncture to the rear right tyre and taken after the accident as seen from the damage to the driver's door and right-wing mirror.



Photo 5 shows the Defendant Vehicle (exhibited at page 27 of DAEIC), which seems to have been taken at a workshop. The ground where the Defendant Vehicle was resting and background in the photographs exhibited in pages 20 to 28 of DAEIC were all different when compared with photograph 4 above, which was the photograph exhibited at page 18 of DAEIC.



Photo 6 shows the Defendant Vehicle (exhibited at page 21 of DAEIC), which seems to have been taken at a workshop as seen from the opened and lifted front bonnet of 2 other vehicles in the background, which one would not ordinarily find in an open-air public carpark. The ground where the Defendant Vehicle was resting and background in the photographs exhibited in pages 20 to 28 of DAEIC were all different when compared with photograph 4 above, which was the photograph exhibited at page 18 of DAEIC.

23. Even though it was stated in paragraph 11 of DAEIC that the Defendant Vehicle was subsequently towed, the photographs exhibited at page 12 to 28 of DAEIC of DAEIC seems to suggest that the Defendant Vehicle was not towed from the accident scene. The Defendant Vehicle was instead driven from the accident scene to a public open-air carpark prior to being towed.
24. If the puncture to the rear right tyre of the Defendant Vehicle had indeed led to the Defendant losing control of the Defendant Vehicle, I would expect the Defendant Vehicle to be towed from the accident scene as it would be unsafe to be driven. Continuing to drive the Defendant Vehicle after the accident suggests that the Defendant was still able to control and manage the Defendant Vehicle despite the puncture to the rear right tyre. This continued driving was also at a time when the Defendant Vehicle was in a physical condition that was more unsafe than before the accident given that the right-wing mirror was broken as a result of the accident.
25. Since the Defendant was able to drive, control and manage the Defendant Vehicle with a punctured rear right tyre after the accident, it would be reasonable to expect that the Defendant was also able to drive, control and manage the Defendant Vehicle with a punctured rear right tyre before the accident. This follows my comments in paragraph 19 above, where I had commented that a driver would have been able to still control, steer and manage a vehicle with a punctured rear right tyre.
26. The Defendant's account of the accident in paragraph 7 of DAEIC, and summarized in paragraph 9 of this report, seems to indicate that the Defendant Vehicle skidded to the right due to the punctured rear right tyre when the Defendant had applied the brake. However, as previously commented in paragraph 15 and 17 above, the physical condition of the rear right tyre does not indicate a case where the rear right tyre had burst causing a sudden rapid loss of pressurized air, which could possibly result in the Defendant losing control of the Defendant Vehicle.
27. Furthermore, I note that the puncture to the rear right tyre of the Defendant Vehicle was depicted at a location that is not where the accident had occurred. Simply put, my examination of the photographs that were taken at the accident scene, which were exhibited in page 47 to 53 of PAEIC and exhibited in page 12 to 16 of DAEIC, do not clearly show that the rear right tyre of the Defendant Vehicle was punctured when Defendant Vehicle was at the accident scene.

28. The Defendant had said in paragraph 8 of DAEIC that after the accident, upon alighting and inspecting the Defendant Vehicle, he realized that the rear right tyre of the Defendant Vehicle was punctured. However, the photograph at page 14 of DAEIC, which was the only photograph that showed the rear right body of the Defendant Vehicle whilst at the accident scene was unclear to establish the puncture to the rear right tyre of the Defendant Vehicle whilst at the accident scene. See photo 7 below.



Photo 7 shows the Defendant Vehicle at the accident scene (exhibited at page 14 of DAEIC). This was the only photograph that showed the rear right body of the Defendant Vehicle whilst at the accident scene and it was unclear to establish the puncture to the rear right tyre of the Defendant Vehicle whilst at the accident scene.

29. Even if there was indeed a puncture to the rear right tyre of the Defendant Vehicle whilst the Defendant Vehicle was at the accident scene, my comments and analysis in the preceding paragraphs of this report indicates that a punctured rear right tyre will not render a driver to lose control of a vehicle and cause a vehicle to skid.

Conclusion

30. Having reviewed the documents provided to me, the physical condition of the rear right tyre of the Defendant Vehicle indicates that the rear right tyre had sustained a puncture and not a burst. Unlike a tyre burst, which will cause sudden rapid loss of pressurized air and a driver to lose control of a vehicle, a tyre puncture will result in a gradual loss of pressurized air.
31. The puncture at the rear right tyre of the Defendant Vehicle will not cause the Defendant Vehicle to skid and the Defendant to lose control of the Defendant Vehicle thereafter. Amongst other factors that I had considered was that the puncture was at the rear right tyre, which is a trailing tyre that follows the travelling path of the front right wheel. The control and managing of the Defendant Vehicle are unaffected as the front tyres and wheels of the Defendant Vehicle were observed to be in serviceable condition.
32. The photographs exhibited at page 12 to 28 of DAEIC showing the Defendant Vehicle at different locations, in particular the photographs at page 18 and 19 suggests that the Defendant had drove the Defendant Vehicle after the accident before it was eventually towed to the workshop. This would indicate to me that the Defendant Vehicle was in a drivable condition despite the puncture to the rear right tyre and hence support my finding that the puncture to the rear right tyre of the Defendant Vehicle did not, in all likelihood, cause the Defendant Vehicle to skid leading to the accident.
33. I have rendered these opinions and conclusions after careful evaluation and analysis of the documents provided, based on my education, training and experience. The factual matters stated in this report are, as far as I know, true and I have made all enquiries which I consider appropriate. The opinions stated in this report are genuinely held by me and this report contains reference to all matters I consider significant



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