LKK Auto Consultants Pte Ltd
Company Registration No. 199607198R
51 UBI AVE 1, #01-25 PAYA UBI INDUSTRIAL PARK, SINGAPORE 408933 TEL : (065) 62563561 FAX : (065) 67414108

Your Ref: TP/IP/24953/2020 12th October 2020
Our Ref : CI/TPD20009192/P

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SFL 7888A

1. I refer to your request on 31st August 2020 to conduct a physical inspection of a Motor Car bearing registration number SFL 7888A (herein referred to as "**Motor Car**"), which was involved in a fatal road traffic accident on 6th June 2020.

2. The objective of the inspection is to determine if there was any possible mechanical failure to the Motor Car that may have contributed to the accident.

3. Following the request, I had carried out a physical inspection of the Motor Car on 12th October 2020 at the premises of Traffic Police vehicle pound, 517 Airport Road Singapore 539942. I now set out below my observations and comments with respect to this inspection.

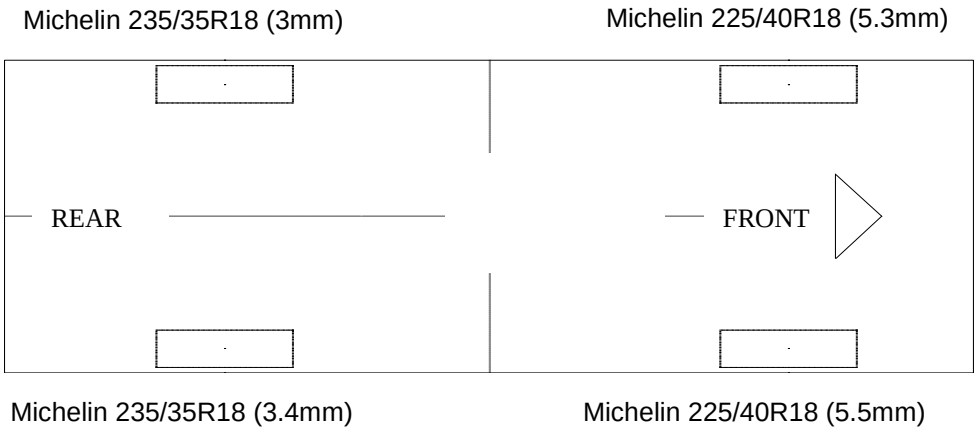
General Condition

4. The mileage of the Motor Car at the time of my inspection was not recorded due to the damage the Motor Car various engine components had sustained.

5. The Motor Car was observed to have sustained damage all around. Its front windscreen, front bonnet, front bumper, both front headlamps, its left and right body panels and rear bumper were amongst the body parts that were damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.

Tyres and Wheel Rims

6. 4 tyres of the Motor Car were observed to be in serviceable condition and sufficiently inflated for vehicular operation. I did not find any tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres. The tyre brand, tyre size and remaining tread depth of the 4 tyres of the Motor Car were recorded as follows:-



7. The 4 tyres were observed to be wrapped around standard alloy wheel rims. See photo 1 – 13 below.

Photo 1 shows the VIN number on the Motor Car's rear body at the time of my inspection.

Photo 2 shows the general view of the Motor Car's rear body at the time of my inspection, its rear bumper (red arrow) and exhaust piping (yellow arrow) were amongst the body parts that were damaged as a result of the accident.

Photo 3 shows a general view of the Motor Car's front body at the time of my inspection. The Motor Car was observed to have sustained damage all around. Its front windscreen, front bonnet, front bumper, both front headlamps, its left and right body panels and rear bumper were amongst the body parts that were damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.

Photo 4 shows a close up view of the Motor Car's front body at the time of my inspection. Its front windscreen (red circle), front bonnet (yellow circle) and both front headlamps (yellow arrow) were amongst the body parts that were damaged as a result of the accident.

Photo 5 shows a close up view of the Motor Car's front body at the time of my inspection. Its front bumper (arrowed), radiator (circled) and various engine components were amongst the body parts that were damaged as a result of the accident.

Photo 6 shows the general view of the Motor Car's right body at the time of my inspection. The Motor Car was observed to have sustained damage on its right body panels were amongst the body parts that were damaged as a result of the accident.

Photo 7 shows the close view of the Motor Car's right body at the time of my inspection. The Motor Car was observed to have sustained damage on its right body panels (circled) were amongst the body parts that were damaged as a result of the accident.

Photo 8 shows the general view of the Motor Car's left body at the time of my inspection. The Motor Car was observed to have sustained damage on its right body panels were amongst the body parts that were damaged as a result of the accident.

Photo 9 shows the condition of the front right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 5.5mm. The tyre was sufficiently inflated for vehicular operation with no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread. The 4 tyres of the Motor Car were wrapped around standard steel wheel rims without any damage.

Photo 10 shows the condition of the rear right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 3.4mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

Photo 11 shows the condition of the rear left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 3mm. The tyre, which was wrapped around steel wheel rim, was also observed to be sufficiently inflated for vehicular operation. The 4 tyres of the Motor Car were wrapped around standard steel wheel rims.

Photo 12 shows the condition of the front left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 5.3mm. The tyre, which was wrapped around steel wheel rim, was also observed to be sufficiently inflated for vehicular operation. The 4 tyres of the Motor Car were wrapped around standard steel wheel rims.

Photo 13 shows the deployment of the Supplemental Restraint System (SRS) airbag in the Motor Car as a result of the accident.

Engine Compartment & Operating Fluids

8. We were unable to raise the front bonnet of the Motor car to conduct the examination of the Motor Car's engine compartment because the damage caused by the accident had resulted in the damages to the lock mechanism of the bonnet and the structure of the engine compartment. (unable to open) See photo 14 below

Photo 14 shows a close up view of the damaged front bonnet lock mechanism and the structure of the engine compartment of the Motor Car at the time of my inspection resulting it unable to open a result of the accident. (circled) (Unable to open)

Braking System & Steering System

9. For this inspection, I was not able to conduct any tests on the braking and steering system of the Motor Car due to the Motor Car's engine and ignition system was damaged as a result of the accident. (Unable to be started)

Braking System & Steering System

10. My visual examination of the various steering and braking components which had included the rack and pinion, tie rods, tie rod ends and ball joints, brake hoses and brake pipes had revealed that these components were all generally intact. However, the front right tie rod was observed to be damaged as a result of the accident. See photo 15 - 20 below.

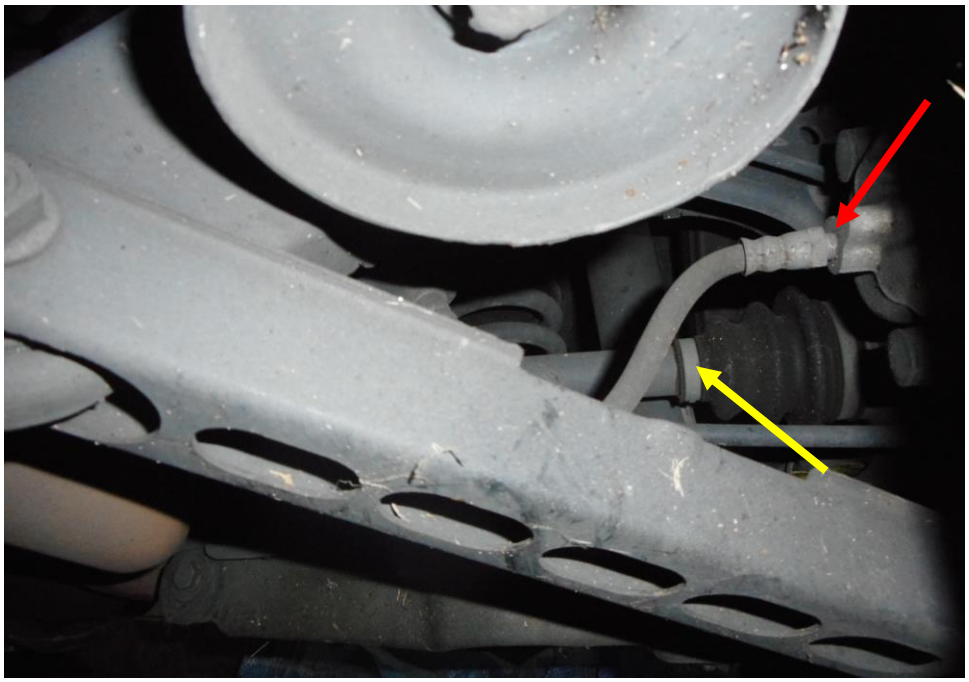


Photo 15 shows the brake hose/pipe (red arrow) and drive shaft (yellow arrow) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed Visual examination of the various components revealed to be intact and without visible damage.

Photo 16 shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car and found to be intact and without any visible damage.

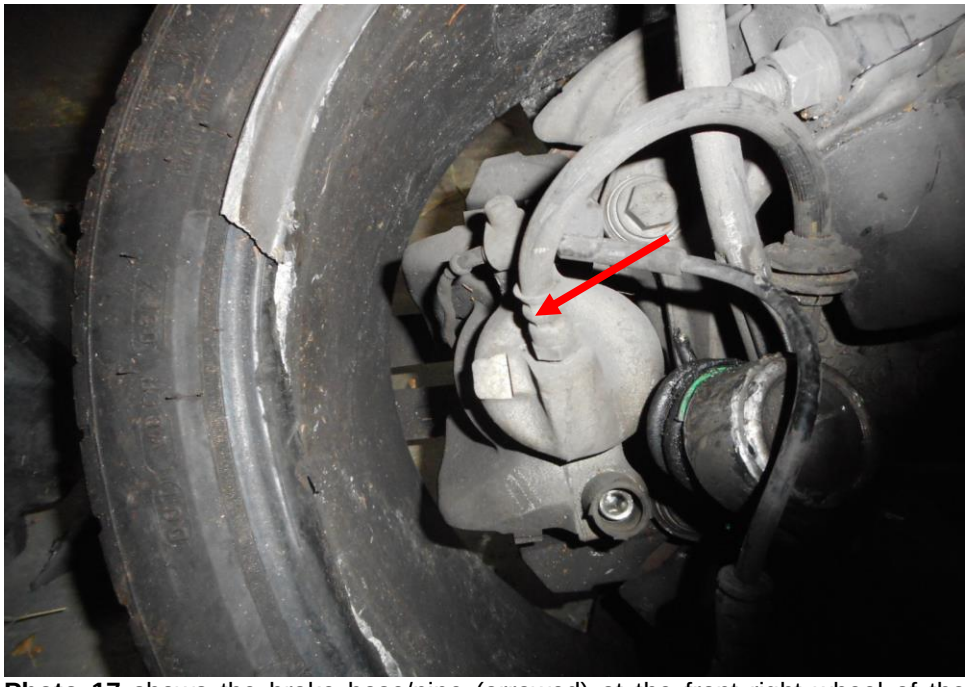


Photo 17 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car and found to be intact and without any visible damage.

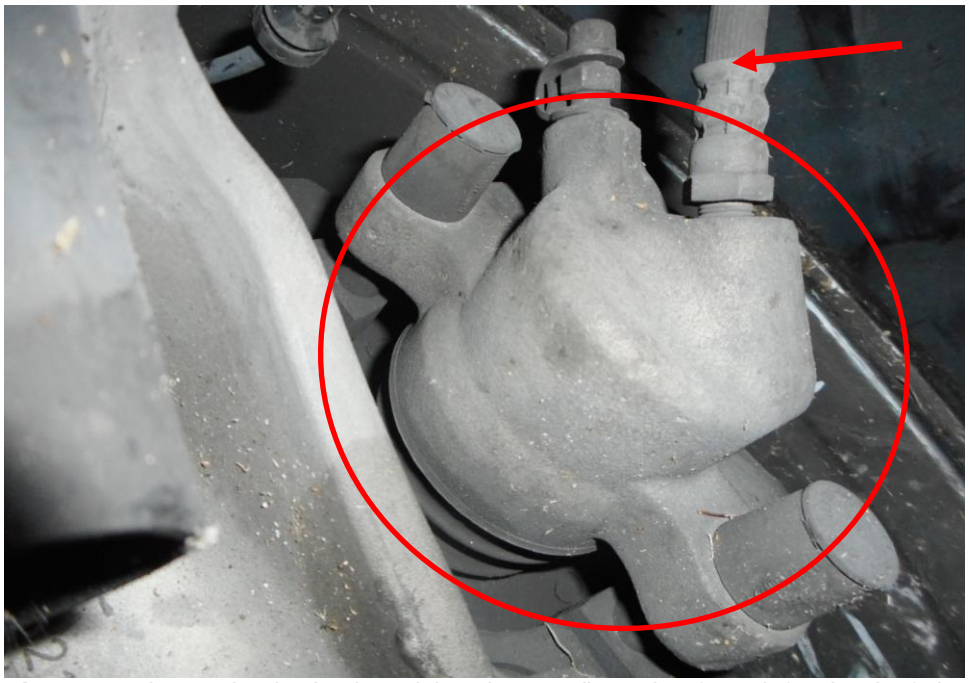


Photo 18 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), had revealed to be intact and without visible damage.

Photo 19 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (red arrow) and various steering components were all found to be damaged as a result of the accident.

Photo 20 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod (red arrow) and various steering components were all found to be damaged as a result of the accident.

Electronic Safety / Warning Indicators

11. The Motor Car's Motor Car's automatic self-test of the functionality of its various electronic operating systems was not able to be conducted as there was damaged ignition system and engine system as a result of the accident. (unable to be started)

Seat Belts

12. For this particular case, we understand that the driver was thrown out of the vehicle in the accident. In our understanding, the likely reasons for the driver to be thrown out is due to a faulty seat belt or the seat belt was not worn at the material time. During our inspection, checks was conducted to the front right and left seat belts of the "Motor Car" were tested and were able to be fastened securely into the respective pre-tensioners that were fitted at the sides of each seat without any issue. So the likely caused to the driver thrown out of the vehicle was likely due to the unworn seat belt by the driver at the material time. See photo 21 & 22 below.

Photo 21 shows that the seat belt on the right seat were able to be fastened securely into the respective pre-tensioners that were fitted at the sides of each seat.

Photo 22 shows that the seat belt on the left seat were able to be fastened securely into the respective pre-tensioners that were fitted at the sides of each seat.

Operational Behaviour of the Motor Car

13. A Operational test to primarily determine whether there was any abnormality to the engine system, transmission system and braking system of the Motor Car could not be conducted given the extent of damage that it had sustained (Unable to be started. Steering system of the Motor Car damage as a result of the accident.).

Conclusion

14. For this particular case, I was unable to determine whether there was any possible mechanical failure to the Motor Car that may have contributed to the accident. The extent of damage that it had sustained had prevented me from carrying out any operational test(s) and/or static test(s) to its engine system, braking system, transmission system, steering system and suspension system.

15. The 4 tyres of the Motor Car were also found to be in serviceable condition. I did not find any tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres also all 4 tyres were observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 3mm to 5.5mm.

Sherwin Beh
Technical Investigator

Ang Bryan Tani
AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA
Senior Technical Investigator
Technical Investigation & Reconstructionist (SAE-A)