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 TP/13898/2023
Our Ref : CI/TPD23006793/P

18th July 2023

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

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLV 1860U

1. I refer to your request on 10th June 2023 to conduct a physical inspection of a Motor car bearing registration number SLV 1860U (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 19th May 2023.

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 17th July 2023 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.

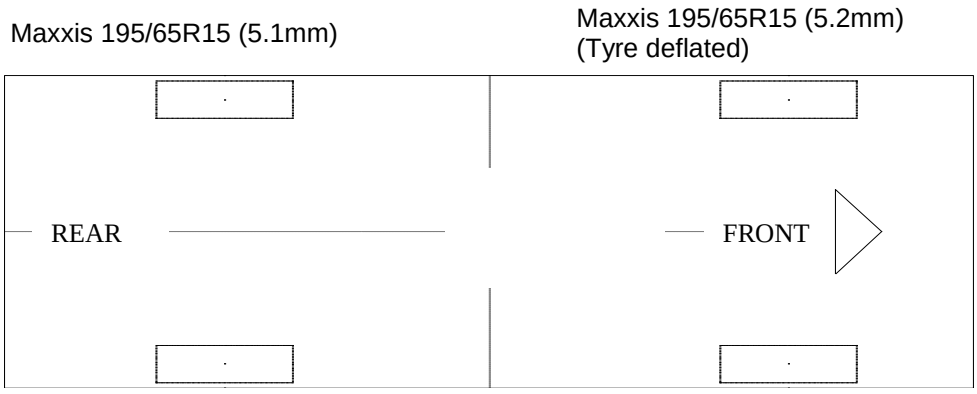
General Condition

4. The mileage of the Motor car was not recorded as the bonnet of the Motor Car damaged as a result of the accident and the access to the battery to jumpstart the Motor Car was blocked as a result of the accident.

5. The Motor car was observed to have sustained damage at its front windscreen, front bonnet, front bumper, front grille and front left headlamp was 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. The front left and right tyre was observed to be deflated as a result of the accident, however the condition of the Motor Car's 2 rear tyres was observed 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 2 rear tyres. The rear right and rear left both rear tyres were observed to be sufficiently inflated for vehicular operation. The tyre brand, tyre size and remaining tread depth of the 4 tyres were recorded as follows:-



7. The front left and right tyre was observed to be deflated as a result of the accident. The 2 rear right and left tyres were observed to be wrapped around alloy wheel rims that were found to be without any damage. See photo 1 – 12 below.

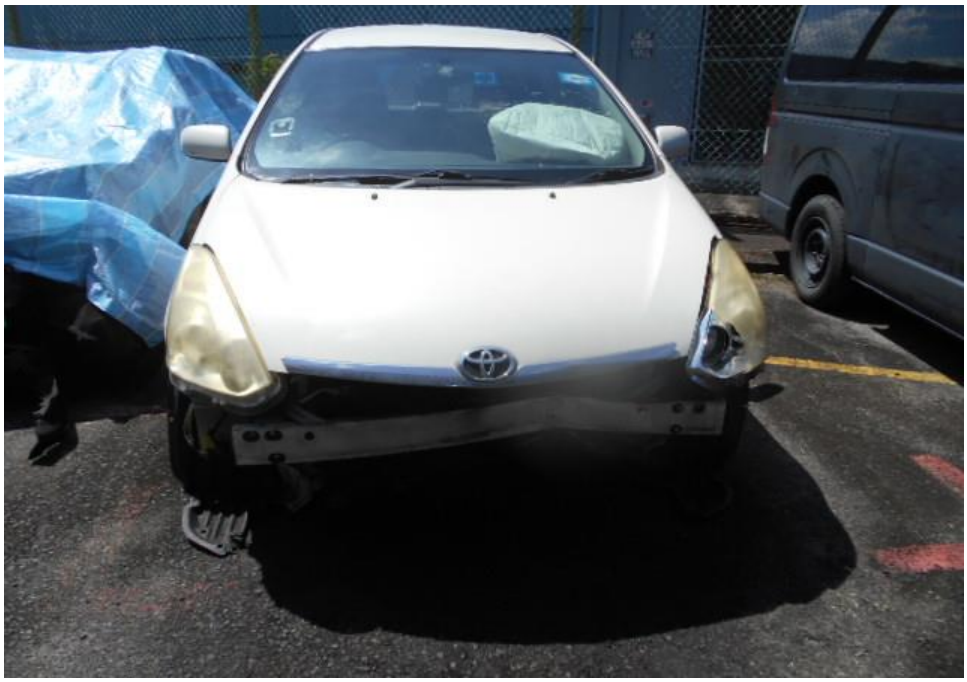


Photo 1 shows a general view of the Motor Car's front body at the time of my inspection. The front bumper which was observed to be missing, front windscreen, and front left headlamp was amongst the body parts that were damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.

Photo 2 shows the close up view of the Motor Car's front body and roof panel at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its front windscreen (circled) was damaged as a result of the accident.

Photo 3 shows the close up view of the Motor Car's front body at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its front bonnet (circled) was missing as a result of the accident.

Photo 4 shows the close up view of the Motor Car's front body at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its front left headlamp (circled) was damaged as a result of the accident.

Photo 5 shows a general view of the Motor Car's right body at the time of my inspection. The Motor Car was observed to be intact and unaffected by the accident.

Photo 6 shows a general view of the Motor Car's left body at the time of my inspection. The Motor car was observed to be intact and unaffected by the accident.

Photo 7 shows a close up view of the Motor Car's rear body at the time of my inspection. The rear portion of the Motor Car was observed to be intact and unaffected by the accident.

Photo 8 shows the condition of the front right tyre of the Motor Car, which was observed to be in unserviceable condition with remaining tread depth of approximately 5.8mm. The tyre was also observed to be deflated as a result of the damaged wheel rim as a result of the accident, however there was no tear, cut or burst mark(s) on the tyre.

Photo 9 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 5.9m. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

Photo 10 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 5.1m. 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 front left tyre of the Motor Car, which was observed to be in unserviceable condition with remaining tread depth of approximately 5.9mm. The tyre was also observed to be deflated as a result of the damaged wheel rim as a result of the accident, however there was no tear, cut or burst mark(s) on the tyre.

Photo 12 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).

9. My subsequent checks on the underside of the Motor Car revealed sign(s) or indication(s) of fluid leak and/or fluid stain(s) from the damaged engine as a result of the accident. See photo 13- 15 below.

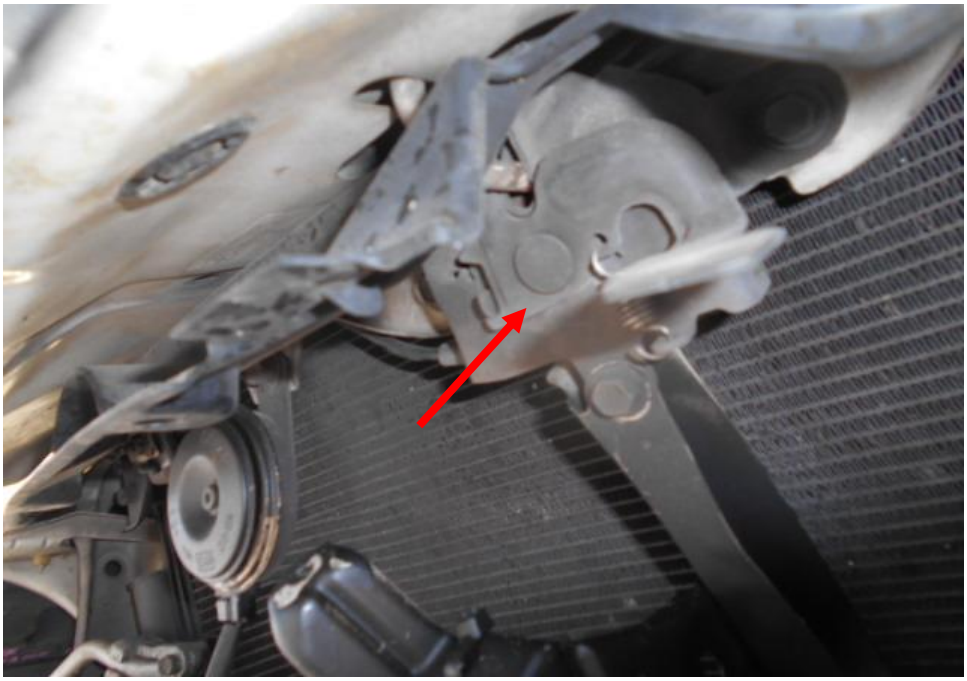


Photo 13 shows the close up view of the damaged front bonnet lock mechanism (arrowed) and the structure of the engine compartment of the Motor Car at the time of my inspection resulting it unable to open a result of the accident. (Unable to open)

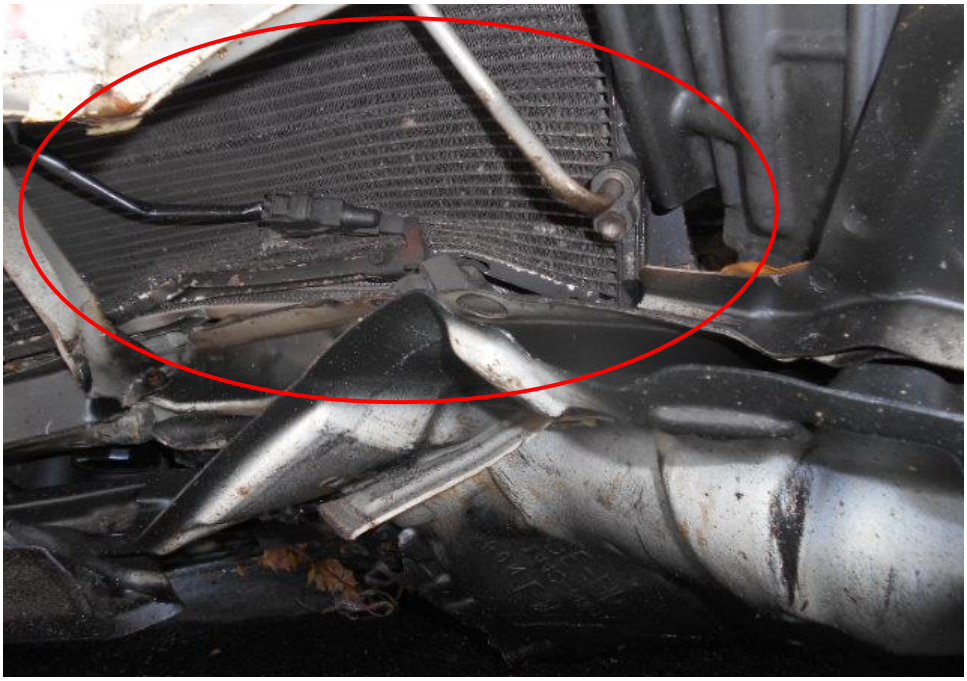


Photo 14 shows checks being carried out to the engine coolant of the Motor Car at the time of my inspection. The engine coolant radiator (circled) was damaged as a result of the accident.

Photo 15 shows the undercarriage of the Motor Car, at the area where the engine housing and transmission housing are located. The transmission housing (circled) was observed to be damaged as a result of the accident, however I did not find any sign(s) or indication(s) of fluid leak and/or fluid stain(s) on the underside of the Motor Car.

Braking System & Steering System

10. For this inspection, I was not able to conduct any static brake and steering tests on the steering and braking system of the Motor Car due to the Motor Car running on electric power steering (EPS) and braking system which requires the Motor Car to be started as the access to the battery is blocked as a result of the accident. (Unable to be started)

11. 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 was observed to be in serviceable condition and generally intact. See photo 16 - 21 below.

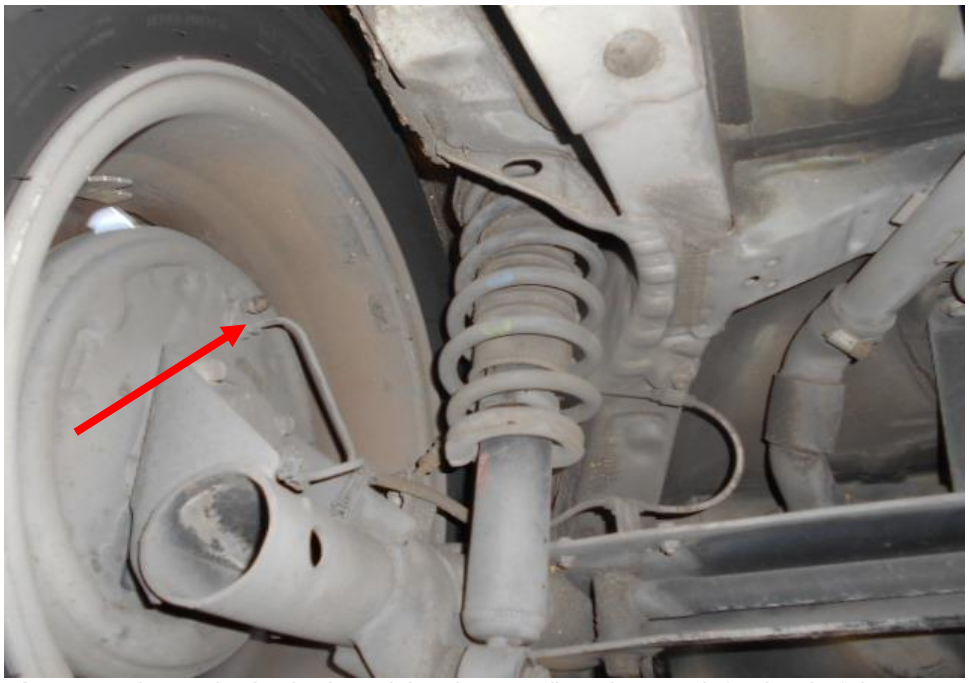


Photo 16 shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake drum to be intact and without visible damage.

Photo 17 shows the brake hose/pipe (arrowed) at the rear right 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 drum to be intact and without visible damage.

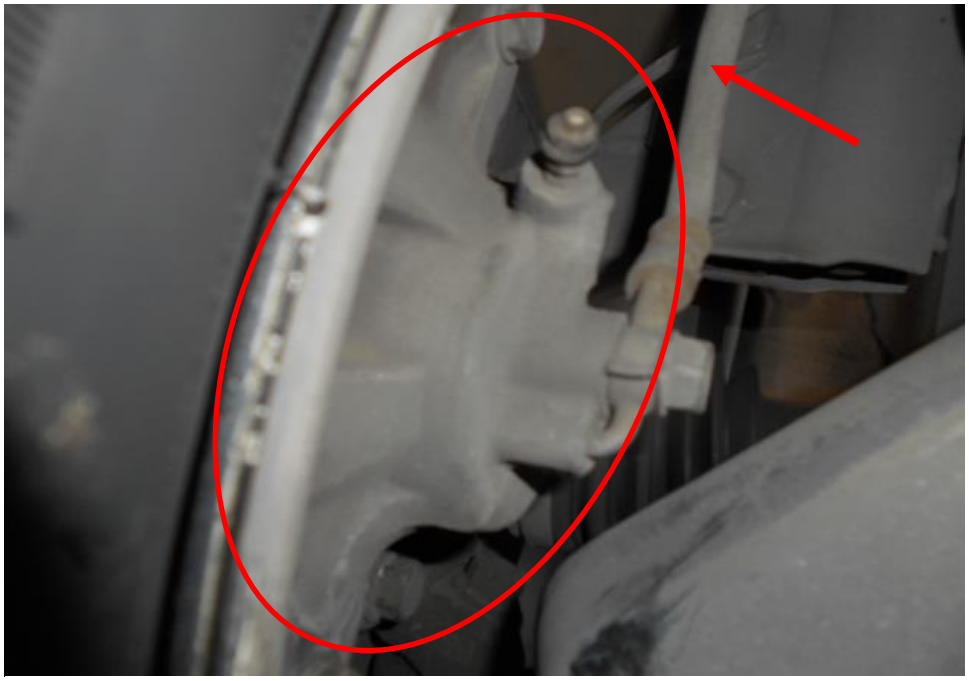


Photo 18 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Car. Visual examination of the various components of the braking system the brake caliper (circled) to be intact and without visible damage.

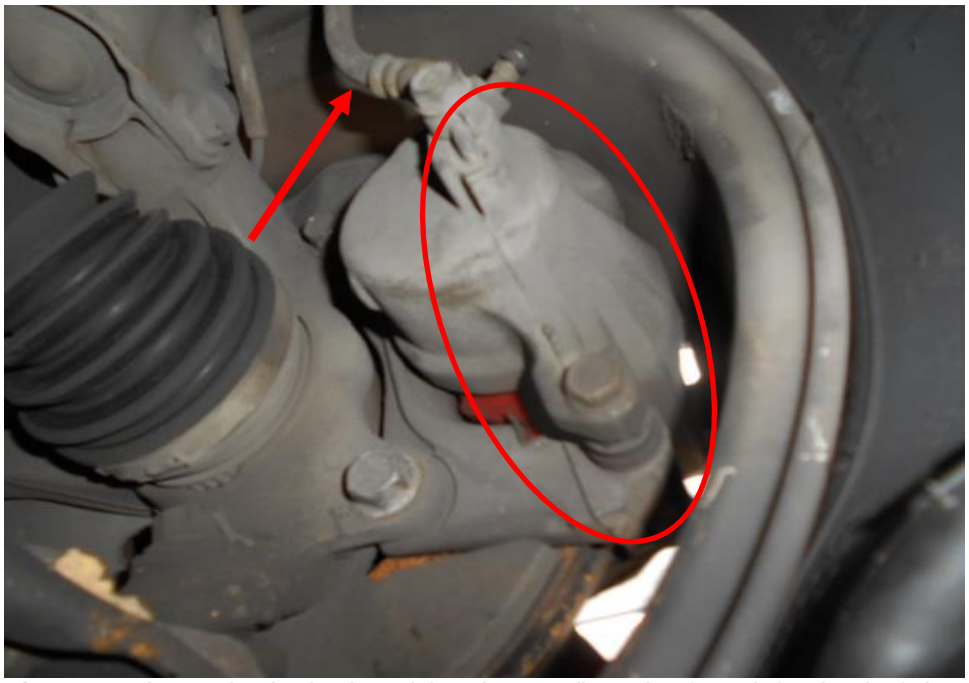


Photo 19 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled) had revealed to be intact and without visible damage.

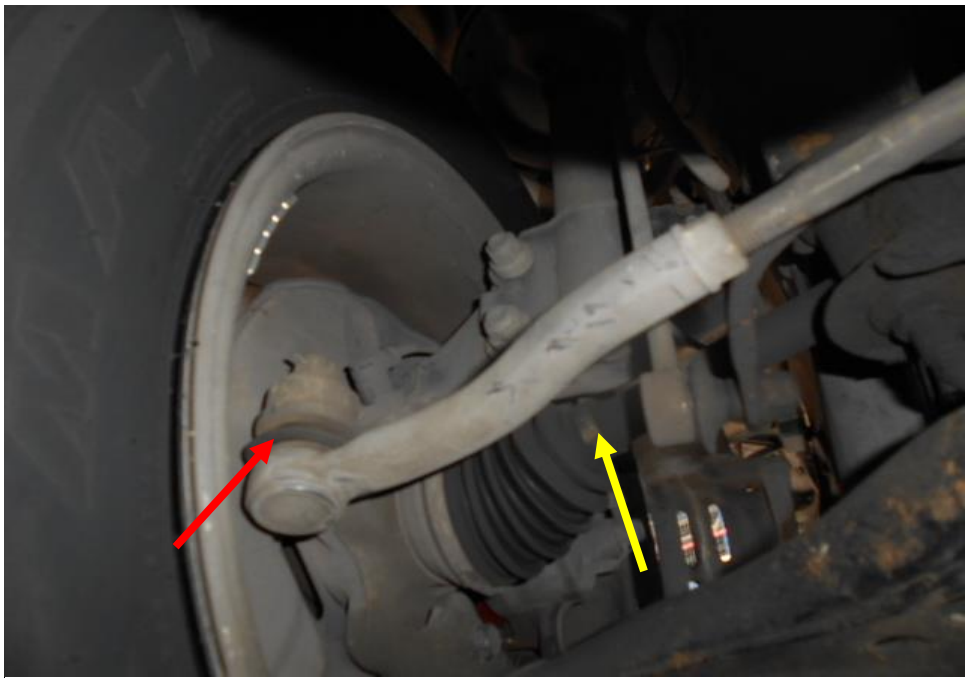


Photo 20 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (red arrow) and the driveshaft (yellow arrow). The various steering components were all found to be intact. There was also no sign of fluid stain observed on the various undercarriage components at the front right wheel of the Motor Car.

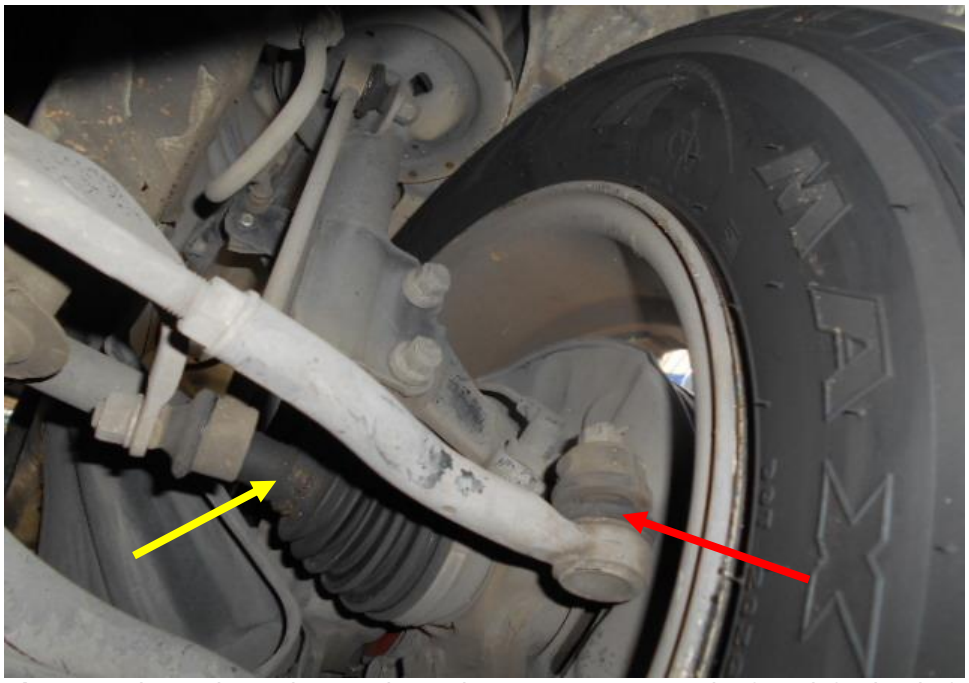


Photo 21 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod end (arrowed) was observed to be damaged as a result of the accident.

Electronic Safety / Warning Indicators

12. The Motor Car's automatic self-test of the functionality of its various electronic operating systems was not able to be conducted as the engine was not started up as the access to the battery was blocked. (Unable to be started)

Seat Belts

13. The front right seat belts of the "Motor Car" was worn and left seat belts was no worn at the material time of accident as the respective pre-tensioners that were fitted at the side of each seat was activated upon the material time. See photo 22 and 23 bellow.

Photo 22 shows that the seat belt on the right seat was worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.

Photo 23 shows that the seat belt on the left seat as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.

Operational Behaviour of the Motor Car

14. 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 engine was unable to be started, and the transmission housing and coolant radiator was also damaged as a result of the accident.

Conclusion

15. 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.

16. The front left and right tyre was observed to be deflated as a result of the accident. 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. The 2 rear right and rear left were observed to be sufficiently inflated for vehicular operation. And all 4 tyres was observed with remaining tread depth of approximately 5.1mm to 5.9mm

Sherwin Beh
Technical Investigator

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