

Your Ref: TP/IP/08485/2022
Our Ref : CI/TPD22008162/P

8th September 2022

General Investigation Team

Traffic Police Department
Singapore Police Force
10 Ubi Avenue 3
Singapore 408865

MECHANICAL INSPECTION REPORT OF MOTOR CAR SLT 1332M

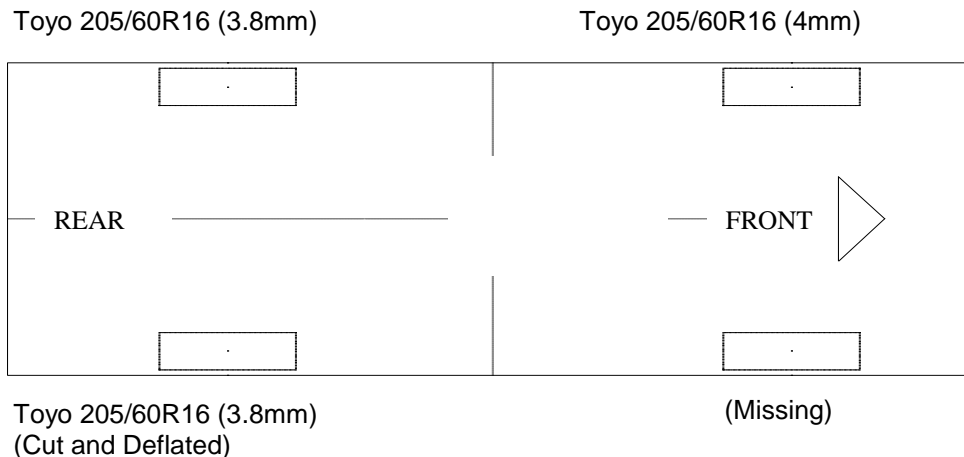
1. I refer to your request on 16th August 2022 to conduct a physical inspection of a Motor car bearing registration number SLT 1332M (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 14th April 2022.
2. The objective of the inspection is to determine if there was 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 6th September 2022 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 as the engine of the Motor Car was unable to be jumpstarted up despite multiple attempts in jumpstarting.
5. The Motor car was observed to have sustained damage at its front portion. Its front bonnet, front bumper, front right fender, front right headlamp was the body parts that were damaged as a result of the accident.

Tyres and Wheel Rims

6. The Motor Car's front right tyre and wheel rim was observed to be missing and the rear right tyre was observed to be deflated and wheel rim damaged as a result of the accident. However, both front and rear left tyres and wheel rims were 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 tyres. The front and rear left tyres were observed to be sufficiently inflated for vehicular operation. The tyre brand, tyre size and remaining tread depth of the 3 tyres were recorded as follows:-



7. The front right tyre and wheel rim was missing and the rear right tyre and wheel rim was observed to be damaged as a result of the accident, however the left front and rear tyres and were observed to be wrapped around alloy wheel rims that were found to be without any damages. See photo 1 – 11 below.



Photo 1 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 at its front portion. Its front bonnet, front bumper, front right fender, front right headlamp was the body parts that were damaged as a result of the accident.



Photo 2 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 (red circle) and its front right fender (yellow circle) was damaged as a result of the accident.

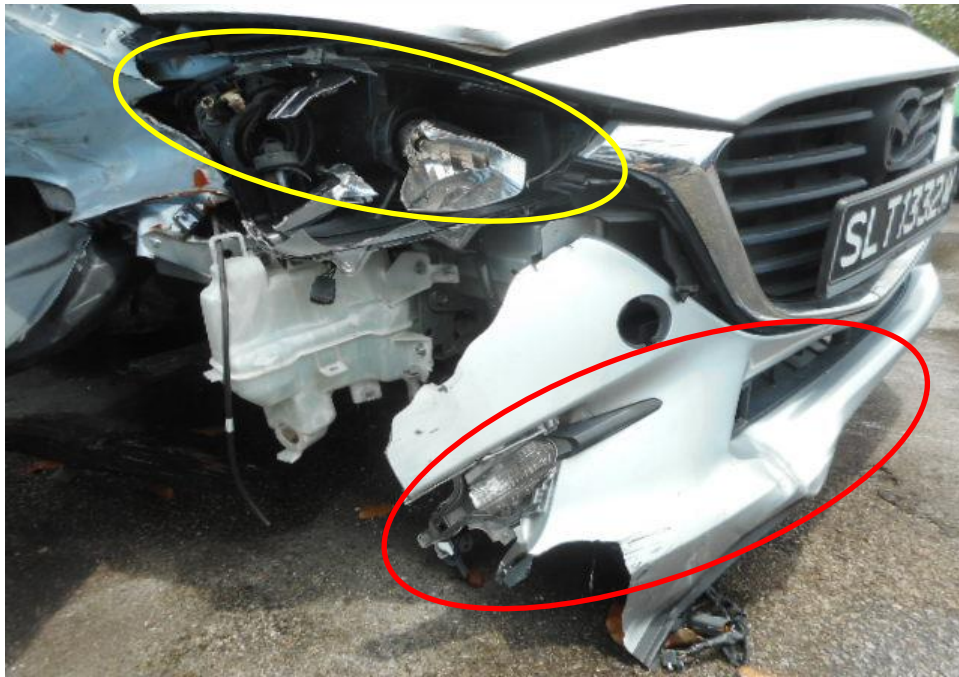


Photo 3 shows the close up view of the Motor Car's front body at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its front bumper (red circle) and its front right headlamp (yellow circle) was damaged as a result of the accident.



Photo 4 shows a general view of the Motor Car's right body at the time of my inspection. The right portion of the Motor Car was observed to have been undamaged by the accident.



Photo 5 shows a general view of the Motor Car's left body at the time of my inspection. The left portion of the Motor Car was observed to have been undamaged by the accident.



Photo 6 shows a general view of the Motor Car's rear body at the time of my inspection. The rear portion of the Motor Car was observed to have been undamaged by the accident.



Photo 7 shows the location of where the front right tyre and wheel rim of the Motor Car should be, however observed that the whole tyre and wheel rim was missing as a result of the accident.



Photo 8 shows the general condition of the rear right tyre and wheel rim of the Motor Car, which was observed to be cut and deflated as a result of the accident with remaining tread depth of approximately 3.8mm.



Photo 9 shows the close up condition of the rear right tyre and wheel rim of the Motor Car, which was observed to be cut and deflated (circled) as a result of the accident with remaining tread depth of approximately 3.8mm.



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 3.8mm. 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 serviceable condition with remaining tread depth of approximately 4mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).

Engine Compartment & Operating Fluids

8. Upon examination of the engine compartment of the Motor Car, I had observed only brake fluid in the reservoir to be insufficient due to the missing brake caplier at the front wheel as a result of the accident. However, all the other parts and components inside the engine compartment was observed to be intact and unaffected by the accident. The engine coolant and engine oil were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.
9. Further examination of the engine compartment revealed no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment of the Motor Car.
10. My subsequent checks on the underside of the Motor Car also revealed no sign(s) or indication(s) of fluid leak and/or fluid stain(s). Visually, the various undercarriage components of the Motor Car were all observed to be intact and without any visible damage. See photo 12 -16 below.



Photo 12 shows a general view of the Motor Car's engine compartment. Only the brake fluid in the reservoir was observed to be insufficient due to the missing brake caplier at the front right wheel as a result of the accident. The other various parts and components inside the engine compartment were unaffected by the accident. There was also no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment.



Photo 13 shows checks being carried out to the brake fluid reservoir of the Motor Car at the time of my inspection. The brake fluid was observed to be of insufficient due to the missing brake caplier at the front right wheel as a result of the accident.



Photo 14 shows the engine coolant reservoir of the Motor Car at the time of my inspection. The coolant was observed to be of sufficient level (arrowed) and without any visible contamination.

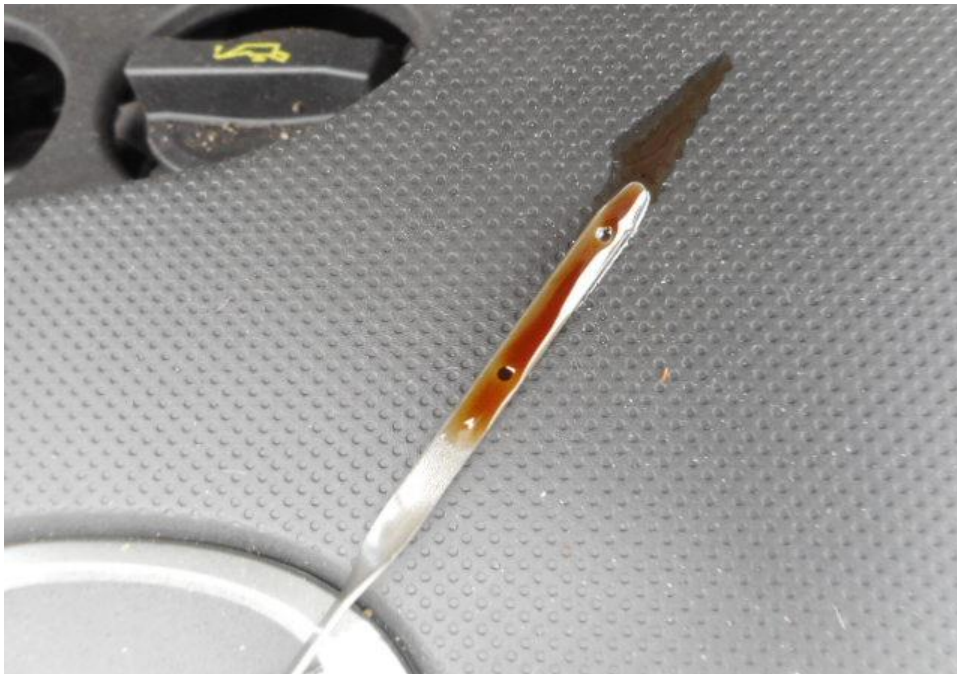


Photo 15 shows the engine oil level dipstick of the Motor Car at the time of my inspection. The engine oil was observed to be of sufficient level and without any visible contamination.



Photo 16 shows the undercarriage of the Motor Car, at the area where the engine housing and transmission housing are located. 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

11. 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, and the engine unable to be started up and also the damages sustained from the accident resulting in the missing front right brake caplier and steering tie rod.
12. My visual examination of the various steering components had revealed that the front steering tie rod and the front right driveshaft was missing and also the lower control arm of the front right wheel was damaged was a result of the accident. However, the other the other steering components of the other wheels were all generally intact.

13. My visually examination of the various steering components had revealed that the front right brake caplier was missing as a result of the accident. However, the other the other braking components of the other wheels were all generally intact. The brake fluid in the reservoir was of insufficient level, as the missing brake caplier had caused a brake fluid leakage. See photo 17 - 23 below.



Photo 17 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod (red arrow) and the lower control arm (yellow arrow) was observed to be missing and broken off as a result of the accident.



Photo 18 shows the various undercarriage components at the front right wheel of the Motor Car, in particular the driveshaft (arrowed) was observed to be missing as a result of the accident.

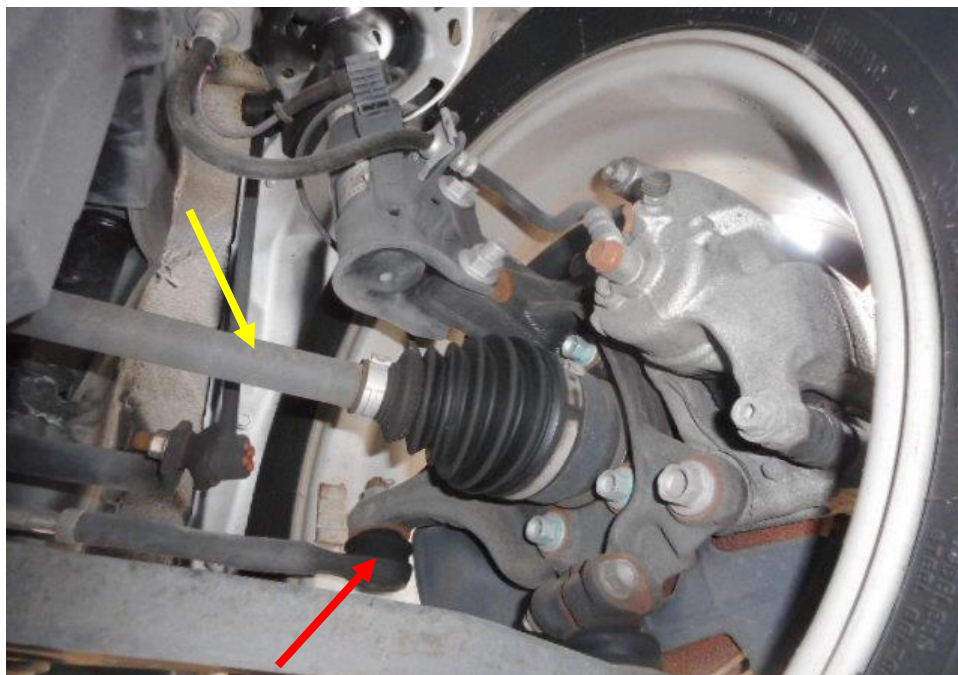


Photo 19 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod (red arrow) and the driveshaft (yellow arrow) was observed to be intact.

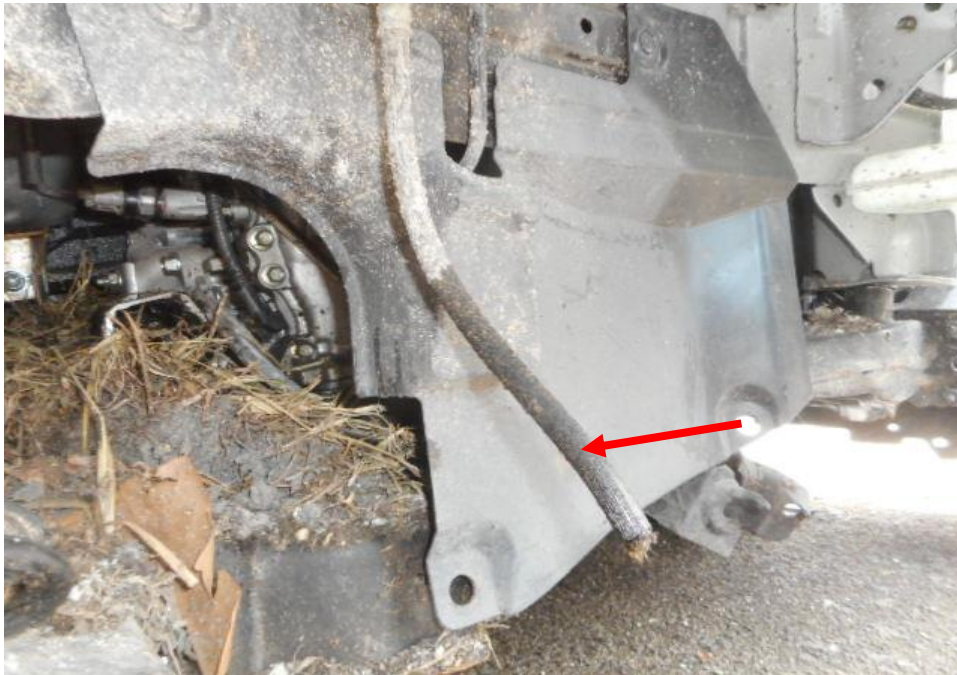


Photo 20 shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. I did observed leakage of brake fluid from the broken brake hose due to the missing brake caplier which was caused by the result of the accident at the time of my inspection of the Motor Car.

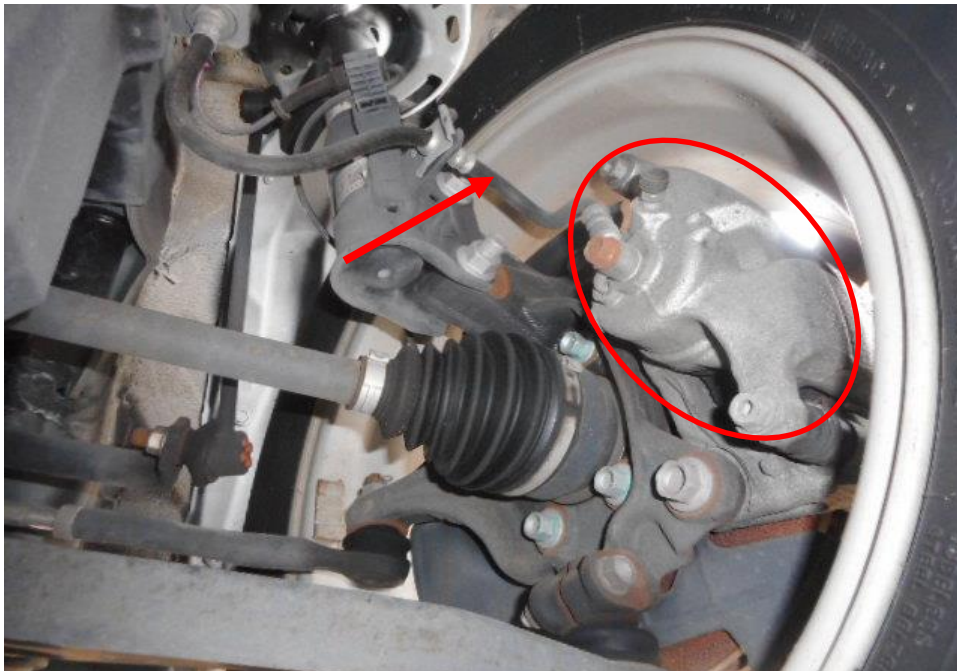


Photo 21 shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake booster, brake pedal etc had revealed all to be intact and without visible damage.

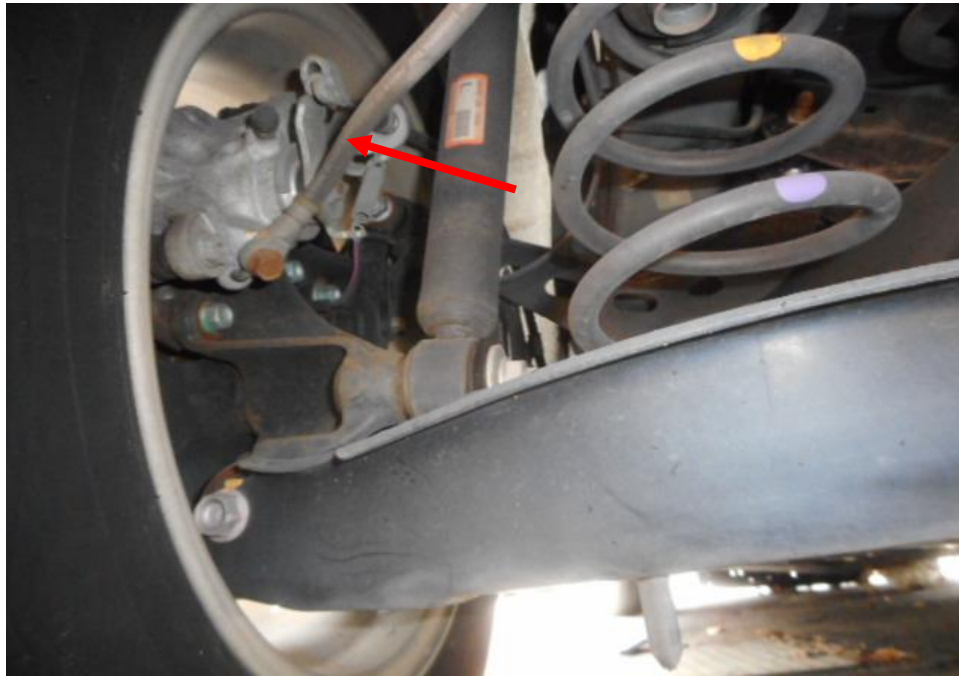


Photo 22 shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the drum brake, brake booster, brake pedal etc. had revealed all to be intact and without visible damage.

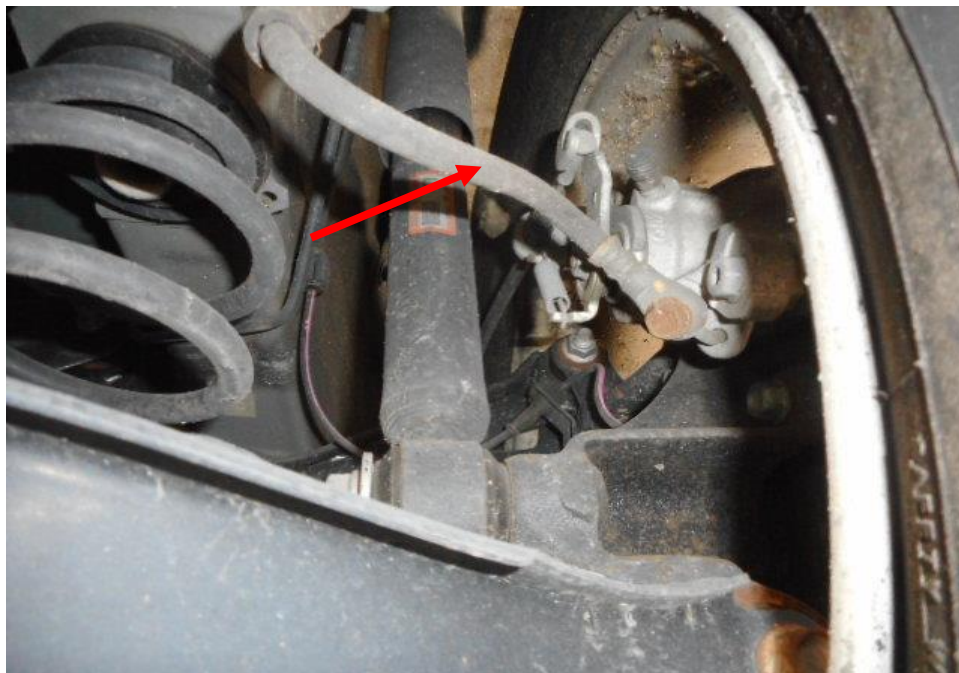


Photo 23 shows the brake hose/pipe (arrowed) at the rear right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the drum brake, brake booster, brake pedal etc. had revealed all to be intact and without visible damage.

Electronic Safety / Warning Indicators

14. 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 unable to be started up. (unable to be started)

Seat Belts

15. The front right, front left, rear right and rear left seat belts of the "Motor Car" were tested and all the seat belts were able to be fastened securely into the respective pre-tensioners that were fitted at the sides of each seat.

Others

16. The driver's accelerator pedal was also observed to be damaged as a result of the induced impact from the accident that caused the body of the Motor Car to foot well area to bent inwards and damaged the accelerator pedal. See photo 24 and 25 below.



Photo 24 shows the general view of the accelerator pedal (arrowed) at the driver's foot well of the Motor Car. I observed that the accelerator pedal was broken due to the induced impact from the accident which had caused the body of the Motor Car to bent inwards and damage the accelerator at the time of my inspection of the Motor Car.



Photo 25 shows the close up view of the Motor Car's body that was bent inwards and damaged the accelerator pedal (arrowed) at the driver's foot well of the Motor Car also a result of the accident.

Operational Behaviour of the Motor Car

17. 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 of the Motor Car was unable to be started up and the damages sustained as a result of the accident to the brake caplier and steering tie rod of the front right wheel causing them to be missing.

Conclusion

18. 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.

19. The Motor Car's right front tyre and rim was observed to be missing and rear tyres were observed to be cut and deflated as a result of the accident. However, the left front and rear tyres of the Motor Car were found to be in serviceable condition. I only found cut mark(s) on the outer sidewalls of the rear right tyre, however the left front and rear tyres were found without damages. The left front and rear tyres were also observed to be sufficiently inflated for vehicular operation with remaining tread depth of approximately 3.8mm to 4mm and the right rear tyre with remaining tread depth of approximately 3.8mm



Sherwin Beh
Technical Investigator



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

DISCLAIMER OF LIABILITY TO THIRD PARTIES: - This Report is made solely for the use and benefit of the Client named on the front page of this Report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report, in whole or in part does so at his or her own risk.