



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/14693/2017  
Our Ref : CI/TPD18010135/Z

30<sup>th</sup> April 2018

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

### **MECHANICAL INSPECTION REPORT OF MOTOR CAR SLN 9029T**

1. We refer to your request on 16<sup>th</sup> April 2018 to conduct a physical inspection of a motor car bearing registration number SLN 9029T (herein referred to as "Motor Car"), which was involved in a fatal road traffic accident on 03<sup>rd</sup> March 2018.
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, we had carried out a physical inspection of the Motor Car on 16<sup>th</sup> April 2018 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 Motor Car recorded at the time of our inspection was 86705 km.
5. The Motor Car had sustained a relatively minor impact damages that was confined to its frontal left portion. Its bonnet was observed to have been dented and its front windshield was observed to be cracked amongst others.
6. This was likely due to the consistency of the accidents case facts that the Motor Car was travelling along Yishun Ring Road towards Yishun Avenue 11 on the left of a 2 lane road. He claimed A1 who was travelling in front of his vehicle made a sudden brake & stop. As such, he made a lane change to the right to overtake A1. In the midst of overtaking, suddenly a pedestrian crossed the road in front of A1 and appeared on his left to right. The Motor Car could not avoid and collided onto the pedestrian. See photo 1 to 7 below.

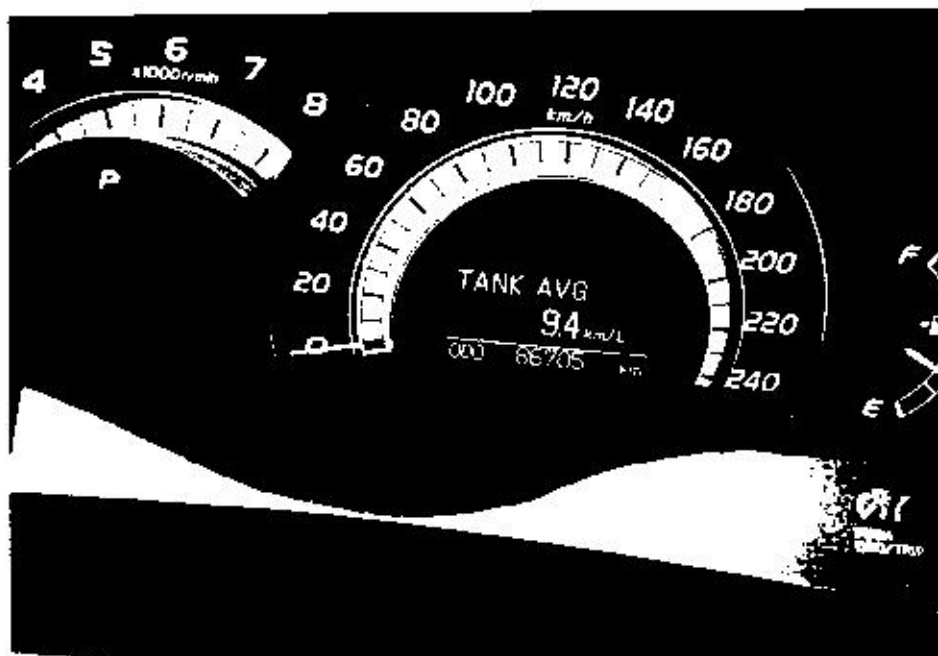


Photo 1 shows the mileage of the Motor Car was 86705 km.

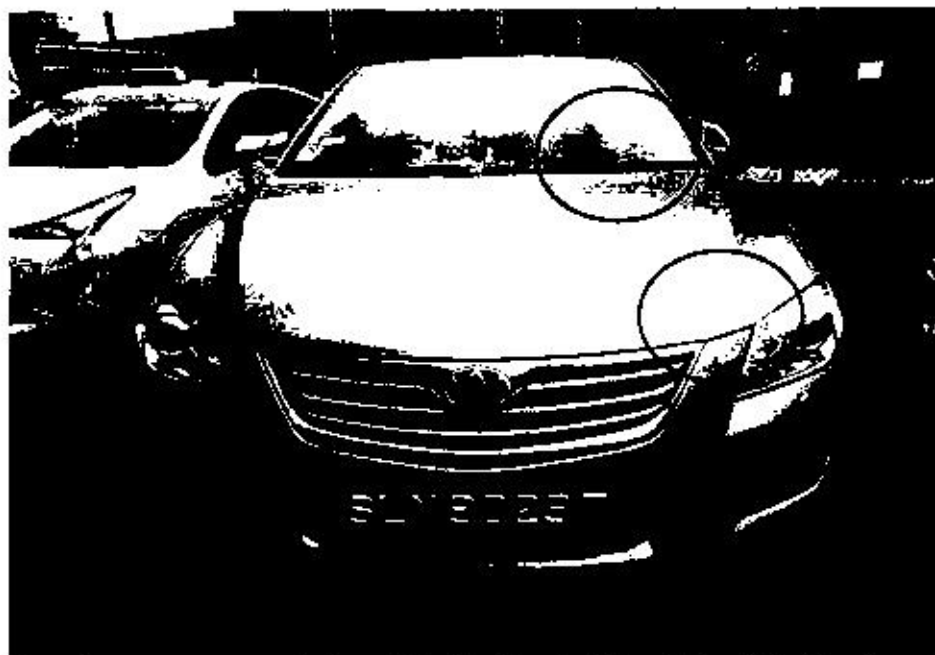


Photo 2 shows a general view of the front body of the Motor Car at the time of our inspection. The Motor Car was observed to be in good general condition except for minor damages at the frontal portion.



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Photo 3 shows a general view of the rear body of the Motor Car at the time of our inspection. The Motor Car was observed to be in good general condition.



Photo 4 shows a general view of the front right body of the Motor Car at the time of our inspection. The Motor Car was observed to be in good general condition.



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Photo 5 shows a general view of the rear right body of the Motor Car at the time of our inspection. The Motor Car was observed to be in good general condition.



Photo 6 shows a close up view of the dented bonnet of the Motor Car at the time of our inspection. The Motor Car had sustained relatively minor impact likely due to the accident's impact.

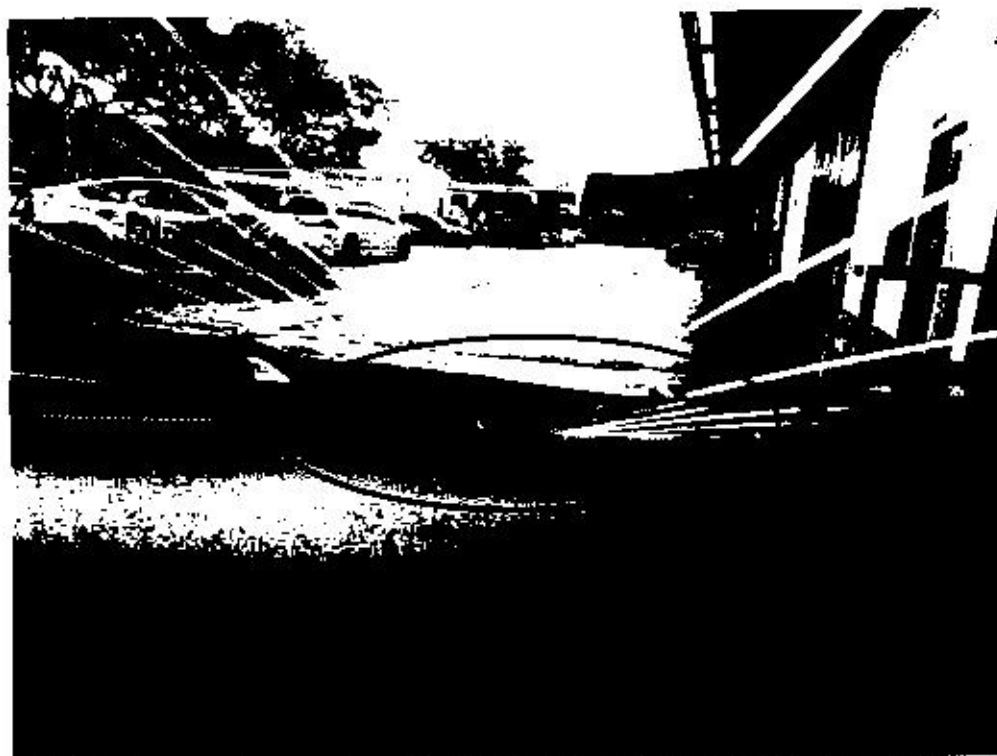
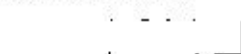


Photo 7 shows a close up view of the front windshield of the Motor Car at the time of our inspection. It was observed to be cracked likely due to the accident's impact.

### Tyres and Wheel Rims

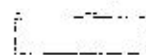
7. The condition of the Motor Car's 4 tyres was observed to be in serviceable condition. We did not find any tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres. The 4 tyres were also observed to be sufficiently inflated for vehicular operation.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

Michelin Energy XM2  
215/60R16 (7mm)



REAR

Michelin Energy XM2  
215/60R16 (7mm)



FRONT



Michelin Energy XM2  
215/60R16 (7mm)

Michelin Energy XM2  
215/60R16 (7mm)



8. The 4 tyres were observed to be wrapped around alloy wheel rims that were found to be without any significant damage except for some marks of grazing nature on the outer spokes of the wheel rims, which are commonly associated to grazing against a road kerb. See photo 8 – 11 below.



Photo 8 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 7mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres.



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 7mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.



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 7mm. The tyre, which was wrapped around alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.

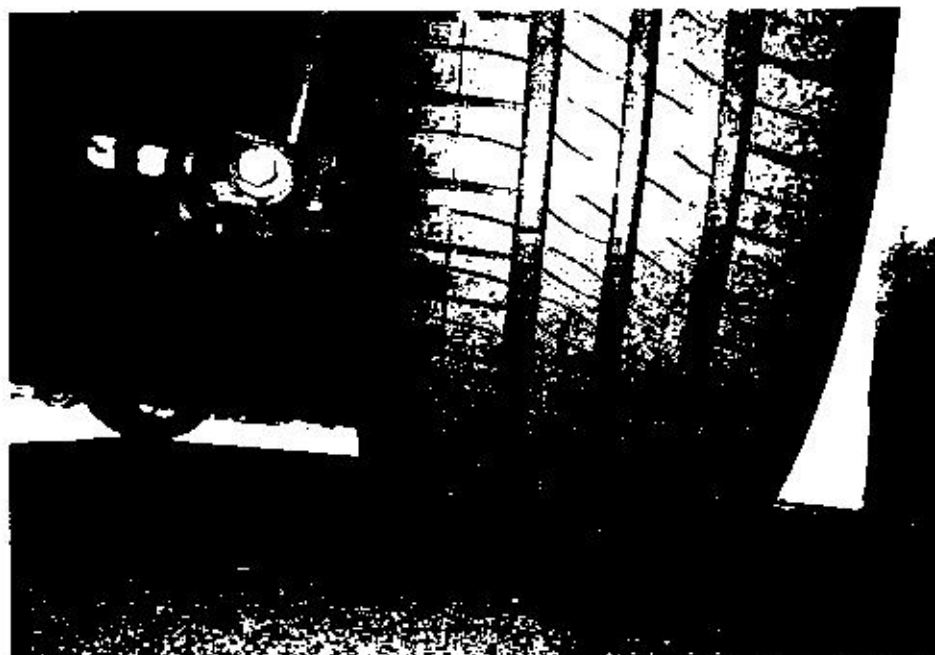


Photo 11 shows the condition of the rear right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 7mm. There was also no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres.

### **Engine Compartment & Operating Fluids**

9. Upon examination of the engine compartment of the Motor Car, we had observed all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid, engine oil and engine coolant were all found to be of sufficient level for operating purposes. Visually, there was also no contamination found to these fluids.
10. 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.
11. Our subsequent checks on the underside of the Motor Car also revealed no fluid stain. 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.



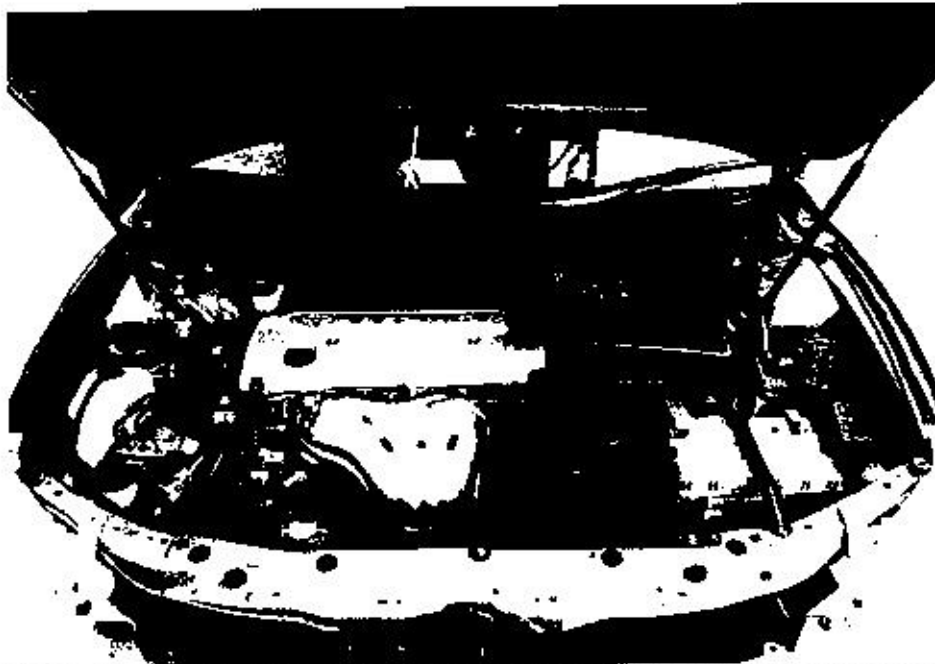


Photo 12 shows a general view of the Motor Car's engine compartment. The various parts and components inside the engine compartment were unaffected by the accident. There was also no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment.



Photo 13 shows the brake fluid reservoir of the Motor Car at the time of our inspection. The brake fluid was observed to be of sufficient level (arrowed) and without any visible contamination.



Photo 14 shows the coolant fluid reservoir of the Motor Car at the time of our inspection. The coolant fluid was observed to be of sufficient level and without any visible contamination.



Photo 15 shows the power steering fluid reservoir of the Motor Car at the time of our inspection. The power coolant fluid was observed to be of sufficient level and without any visible contamination.



Photo 16 shows the engine oil dip stick of the Motor Car at the time of our inspection. The engine oil was observed to be of sufficient level and without any visible contamination.

### **Steering System & Braking System**

12. The mechanical components of the Motor Car's steering system and braking system were all found to be visually intact and undamaged. Our visual examination of the various steering components, which had included the rack and pinion, tie rods, tie rod ends and ball joints, revealed that these components were all generally in good condition. Components of the braking system like the brake master pump, brake booster, brake callipers and brake hoses amongst others were also found to be without any damage upon our visual inspection.
13. Static test on the steering system of the Motor Car also revealed no abnormality to the steering system. We did not experience any abnormal free play and/or other resistance when turning the steering wheel left and right to full lock positions. Our visual examination of the various steering components which had included the steering rack and pinion, tie rods, tie rod ends and ball joints revealed that these components were all generally in good condition. See photo 17 - 20 below.

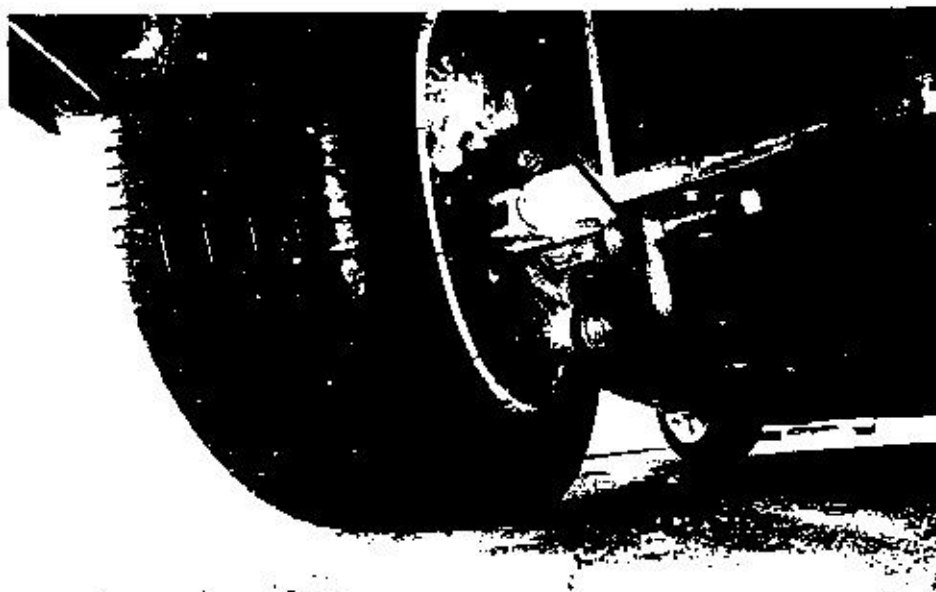


Photo 17 shows the brake hose (arrowed) at the rear left wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system revealed all to be intact and without visible damage.



Photo 18 shows the brake hose (arrowed) at the front right wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system, including its brake calliper (circled), revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.



Photo 19 shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod (arrowed). The various steering components were all found to be intact, suggesting that the steering system of the Motor Car was likely to be in serviceable condition.

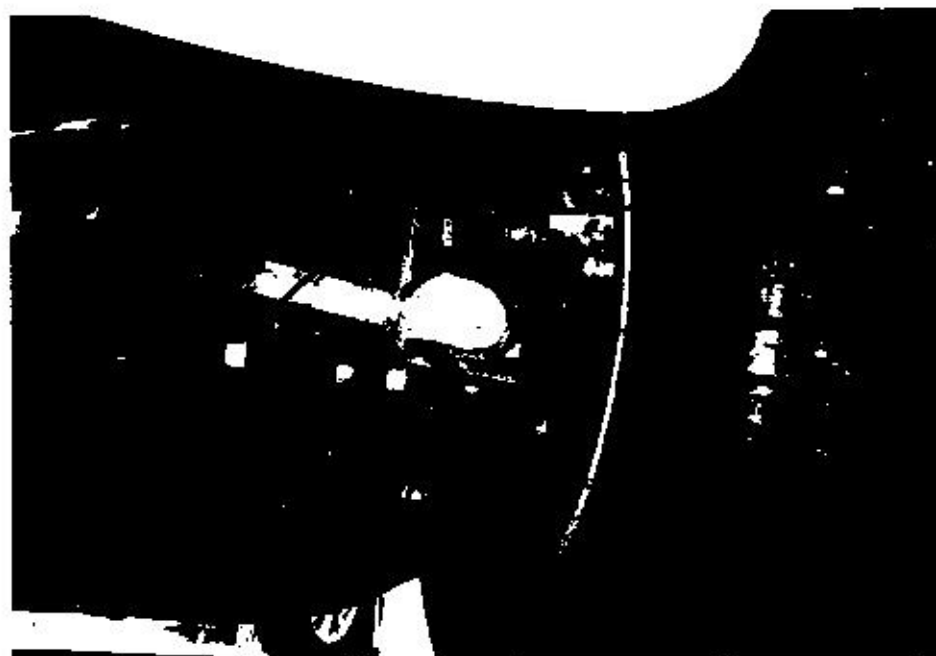


Photo 20 shows the various undercarriage components at the rear right wheel of the Motor Car. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.

### Electronic Safety / Warning Indicators

14. The Motor Car's automatic self-test of the functionality of its various electronic operating systems like the Anti-Brake Lock System (ABS) and Supplemental Restraint System (SRS) during cranking of the engine had indicated that these systems were in working condition and without abnormality. This can be established from the warning lights disappearing from the instrument panel after the self-test. See photo 21 & 22 below.



Photo 21 shows the warning lights for the various electronic operating systems of the Motor Car appearing on its instrument panel during the self-test when the engine is cranked, in particular the ABS light and SRS light.

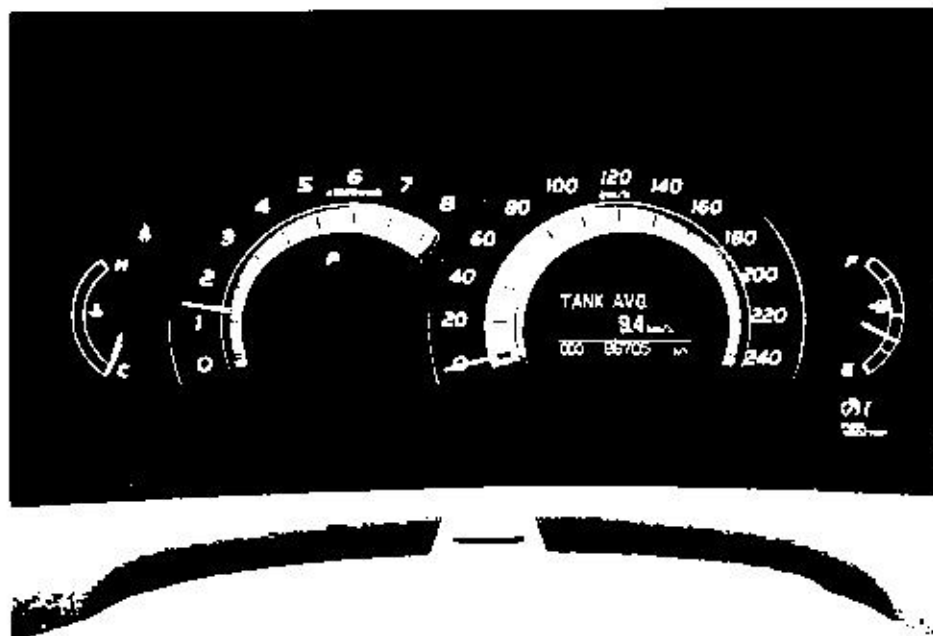


Photo 22 shows no warning lights illuminated on the instrument panel of the Motor Car after the engine was cranked. This would suggest that there was no abnormality to the various electronic operating systems of the Motor Car, like the ABS and SRS.

### **Operational Behaviour of the Motor Car**

15. A short operational test of the Motor Car, to primarily determine whether there was any abnormality to its engine system, its transmission system and braking system was subsequently carried out.
16. During the operational test, the transmission system of the Motor Car was able to be shifted to drive mode and reverse mode without any difficulty. There were no abnormal sounds heard and/or abnormal behaviour of the Motor Car's engine system. It was able to move forward and backward normally. The braking system was also found to be in working condition as the Motor Car was able to slow down and come to a complete stop upon depressing of the brake pedal.

### **Conclusion**

17. From our physical inspection of the Motor Car, it appears that its engine system, transmission system, steering system and braking system were all in serviceable condition. We did not find any evidence(s) to suggest that there was possible mechanical failure to the Motor Car that may have caused and/or contributed to the accident.



18. A short operational test of the Motor Car, which we had conducted, did not produce any sign(s) or symptom(s) to suggest that there was any abnormality to its engine system, its transmission system and braking system.
19. The 4 tyres of the Motor Car were also found to be in serviceable condition. There was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 4 tyres. The 4 tyres were sufficiently inflated for vehicular operation with remaining tread depth of approximately 6mm each.

**Rohalzal A. Rahim**

*Technical Investigator*

**Ang Bryan Tani**

*AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA*

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*Technical Investigation & Reconstructionist (SAE-A)*

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