



Your Ref: TP/IP/21411/2018  
Our Ref : CI/TPD18010489/Z

25<sup>th</sup> April 2018

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

### **MECHANICAL INSPECTION REPORT OF MOTOR CAR SKV 6736A**

1. We refer to your request on 10<sup>th</sup> April 2018 to conduct a physical inspection of a motor car bearing registration number SKV 6736A (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 04<sup>th</sup> April 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 11<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 at the time of our inspection was recorded at 38445km.
5. The Motor Car had sustained impact damages that were confined to its frontal, rear, front left & front right portion. Its front right bumper was observed to be crushed & misaligned; its front left hand bonnet was observed to be misaligned; its lower bumper was noted to be dented, it's left side fender & it's right side fender was observed to be corrugated & its rear lower bumper was observed to be dislodged.
6. This was likely due to the consistency of the accident's case facts that was involved in an accident at Tampines Central 5. The driver claimed that he was not able to stop and the Motor Car continued to surge forward despite him applying brake. See photo 1 to 8 below.



**Photo 1** shows the mileage of the Motor Car at the time of our inspection was recorded at 38445km.



**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 have sustained damages at the frontal, front left & front right portion.





**Photo 3** 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 have sustained damages at the frontal, front left & front right portion.



**Photo 4** shows a general view of the front left body of the Motor Car at the time of our inspection. The Motor Car was observed to have sustained damages at the left frontal portion.



**Photo 5** shows a close up view of the front right side headlamp of the Motor Car at the time of our inspection. It had sustained damages likely due to the accident.



**Photo 6** shows a close up view of the front left lower bumper of the Motor Car at the time of our inspection. It had sustained damages likely due to the accident.





**Photo 7** shows a close up view of the front right side mirror of the Motor Car at the time of our inspection. It had sustained damages likely due to the accident.



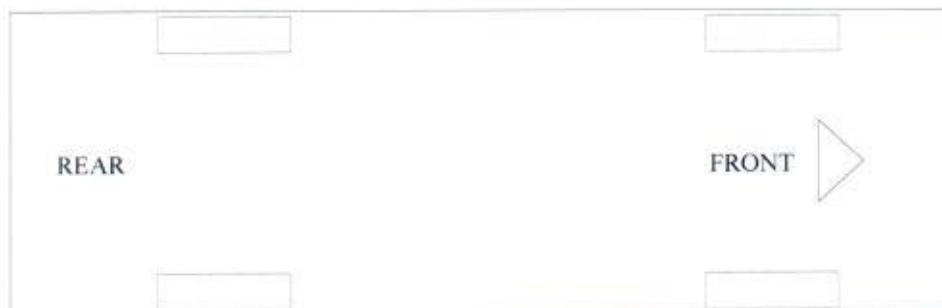
**Photo 8** shows a general view of the rear body of the Motor Car at the time of our inspection. It had sustained damages likely due to the accident.

### Tyres and Wheel Rims

7. The front left, front right & rear right tyres were observed to be deflated due to the accident's impact. The front right tyres were observed to be severely damaged (torn) on the sidewall due to the accidents impact. However, the conditions of the Motor Car's 4 tyres were observed to be in serviceable condition despite the severe damage & deflation that we found at time of inspection. The tread patterns were obvious visually. The remaining tread depth of the front left, front right & rear left tyres was approximately 7mm.
8. As for the rear right tyre, it 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 tyre. It was also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the rear right tyre was approximately 8mm.

Continental Conti Premium Contact  
205/55R16 (7mm) - (Deflated)

Continental Conti Premium Contact  
205/55R16 (7mm) - (Deflated)



Continental Conti Premium Contact  
205/55R16 (8mm)

Continental Conti Premium Contact  
205/55R16 (7mm) - (Deflated)

9. The 4 tyres were observed to be wrapped around alloy wheel rims. Further observation found that 3 tyres were found to be deflated which includes the front left, front right & rear right tyres due to the accident's impact collision. See photo 9 – 15 below.





**Photo 9** shows the condition of the front left tyre of the Motor Car, with remaining tread depth of approximately 7mm. However, it was observed to be deflated due to the accident's impact.



**Photo 10** shows the condition of the front left tyre of the Motor Car, which was observed to be deflated due to the accident. Its alloy wheel rim also found to have sustained with scratches.



**Photo 11** shows the condition of the front right tyre of the Motor Car, with remaining tread depth of approximately 7mm. However, it was observed to be deflated due to the accident's impact.



**Photo 12** shows the condition of the front right tyre of the Motor Car, with remaining tread depth of approximately 7mm. Further observation found that the sidewall was torn & deflated. The alloy wheel rim found to be damaged as a result of the accident.





**Photo 13** shows the condition of the rear left tyre of the Motor Car, with remaining tread depth of approximately 7mm. However, it was observed to be deflated due to the accident's impact.



**Photo 14** shows the condition of the rear left tyre of the Motor Car, which was observed to be deflated due to the accident. Its alloy wheel rim also found to have sustained with scratches.



**Photo 15** 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 8mm. The tyre was also observed to be sufficiently inflated for vehicular operation.

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

10. Upon thorough examination of the engine compartment, the engine undercarriage was however observed to be covered with fluid, suggesting leakage of fluid. There was no accumulation of dust and/or dirt particles on the engine housing where the fluid stains had formed. This would indicate that the fluid leakage was a fresh leak and likely to be a result of the accident. Despite leakage traces found on the engine undercarriage, there were also traces of fluids on the ground right above the engine pan. Our further observation on the engine fluid, we found that it was at slightly above the minimum level mark on the dip stick. This indicates that there's a decrease to the engine fluid likely due to the leakage.



11. Fluid component such as brake fluid was visible and found to be of sufficient level for operating purposes. Visually, there was also no contamination found to this fluid.
12. Our subsequent checks on the underside of the Motor Car revealed the various undercarriage components of the Motor Car were all observed to be intact and without any visible damage except for dents & scratches that contributes to the engine fluid leakage as a result of the accident. See photo 16 – 22 below.



**Photo 16** shows the visible parts and components inside the engine compartment to be intact and unaffected by the accident.

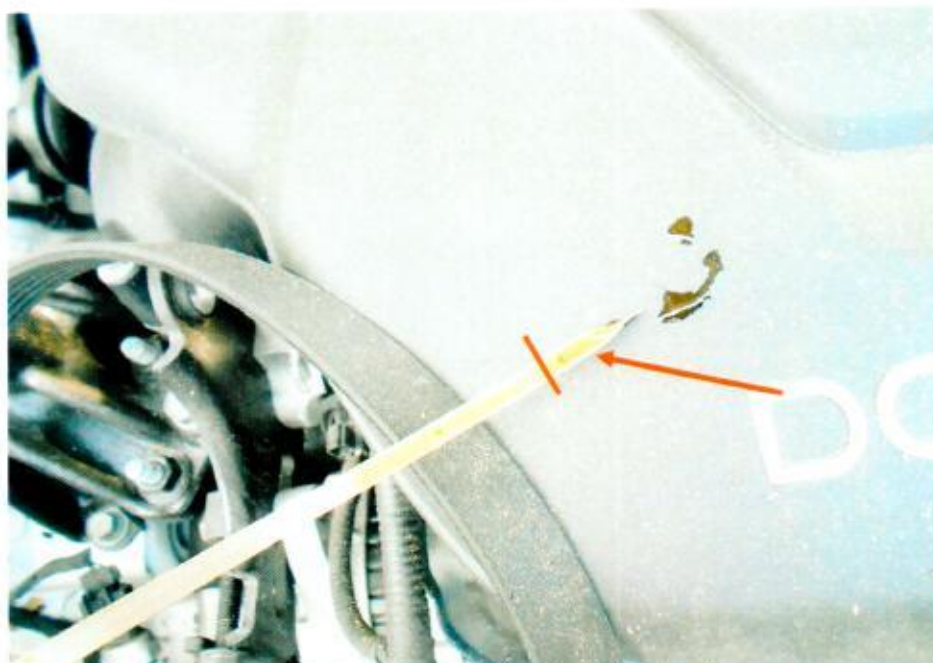


Photo 17 shows the fluid component such as brake fluid was visible and found to be of sufficient level for operating purposes. Visually, there was also no contamination found to this fluid.

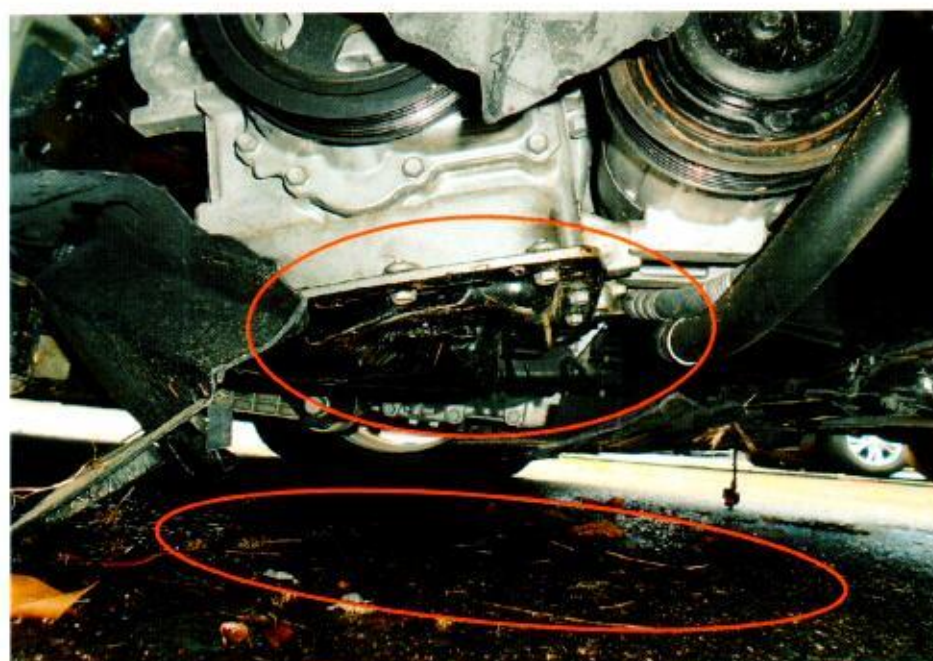


Photo 18 shows the fluid component such as coolant fluid was visible and found to be of sufficient level for operating purposes. Visually, there was also no contamination found to this fluid.





**Photo 19** shows the engine fluid. Although, visually there was also no contamination found to this fluid. However, due to leakage observed on the underside of the engine, the engine fluid was found to be around the lower level of the acceptable mark on the dip stick.



**Photo 20** shows the underside of the Motor Car also reveals there's fluid stain on the ground right underneath the engine pan. This indicates that there's fluid leakage exist likely due to the damages sustained as a result of the accident's impact.



**Photo 21** shows our subsequent checks on the underside of the Motor Car also reveals there's fluid stain on the ground right underneath the engine pan. This indicates that there's fluid leakage exist likely due to the accident's impact.



**Photo 22** showed damaged belting for the operational components such as alternator, air-conditioning compressor amongst others for the normal operation.



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

13. The mechanical components of the Motor Car's steering 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.
14. Static test on the steering system of the Motor Car was unable to be conducted due to the system malfunction (engine can't start) & damages on the operating components such as torn belting & fluid leakage likely due to the result of the accident. 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.
15. As for the braking system, static brake test was conducted with satisfactory result. Our investigation reveals that there was no brake fluid leakage upon conducting the static brake test. The brake hoses, brake booster, brake callipers, brake pad and brake fluid reservoir was found to be intact and unaffected by the accident's impact. The brake fluid was noted to be of sufficient level without any contamination for operational purposes at time of our inspection. See photo 23 - 31 below.

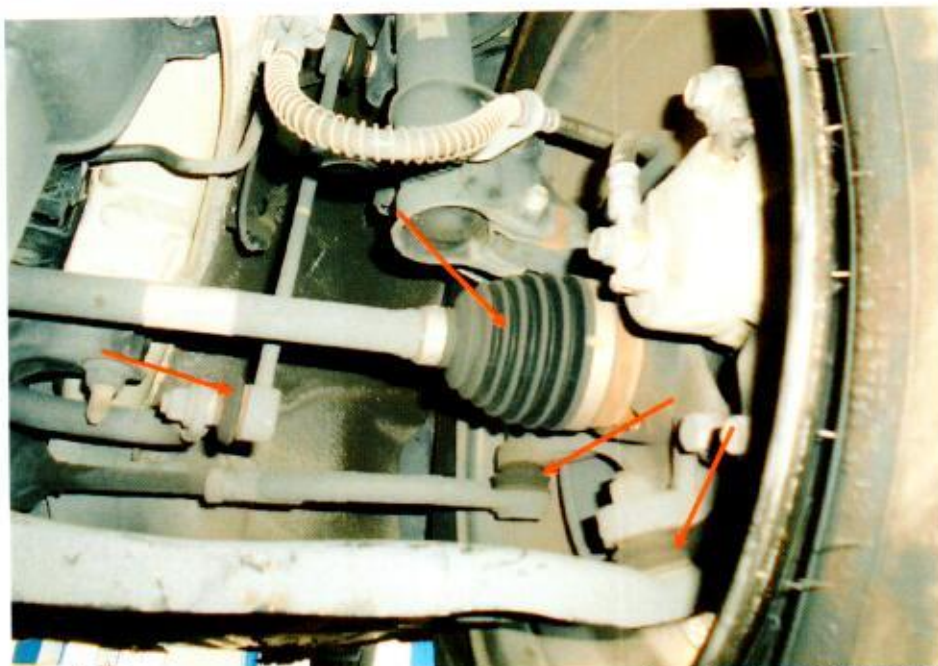


**Photo 23** shows the brake hose (arrowed) at the rear left wheel of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system revealed all to be intact and without visible damage, indicating that the braking system was likely to be in serviceable condition at the material time of accident.



**Photo 24** shows the brake hose (arrowed) at the front right wheel of the Motor Car. Our visual inspection of the various mechanical components of the Motor Car's braking system, including its brake calliper, 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.

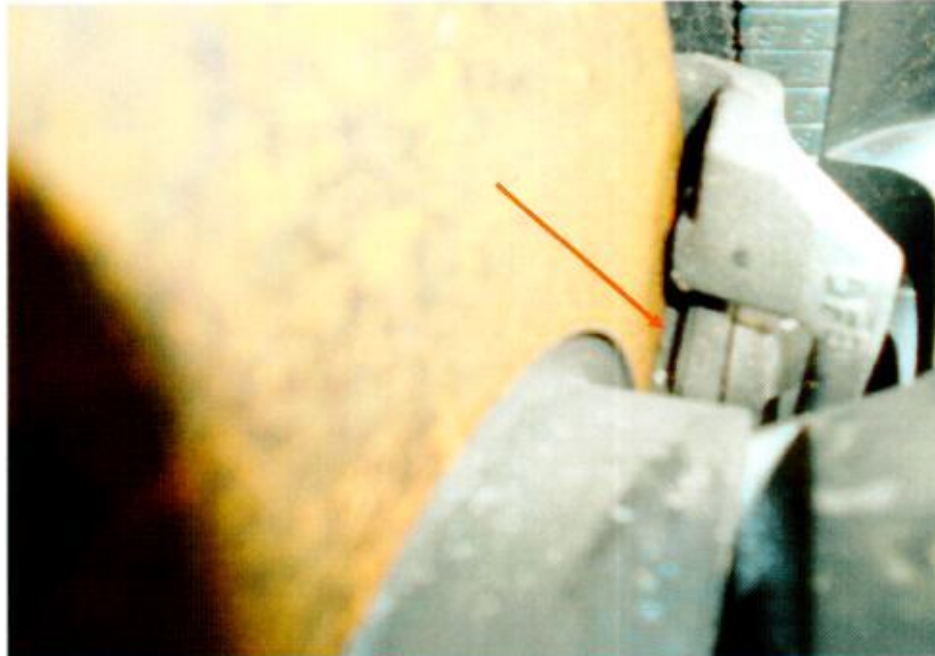




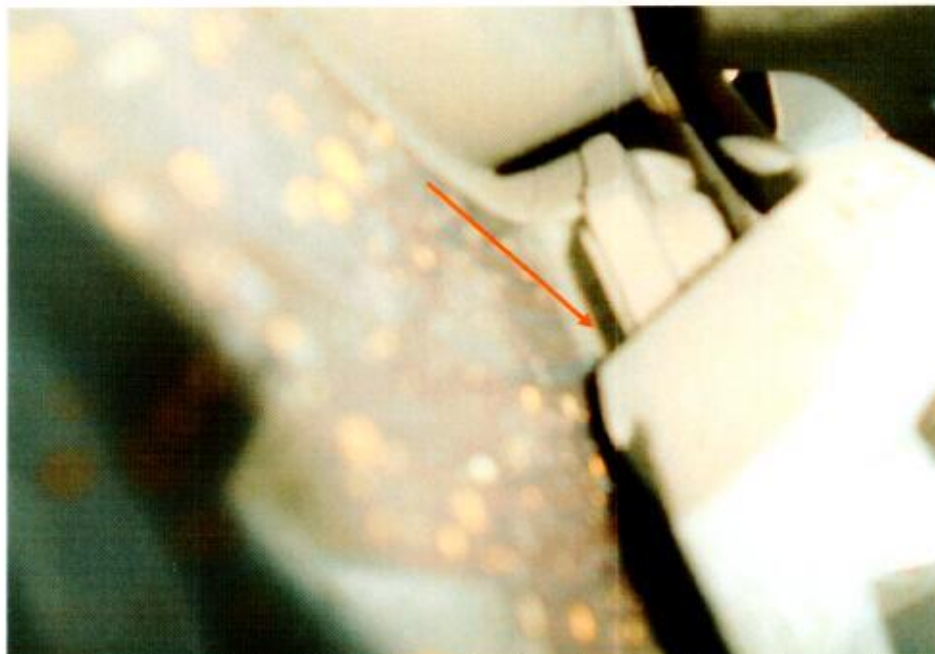
**Photo 25** shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod (arrowed). The various steering components were all found to be intact, suggesting that the steering system of the Motor Car was likely to be in serviceable condition.



**Photo 26** 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.

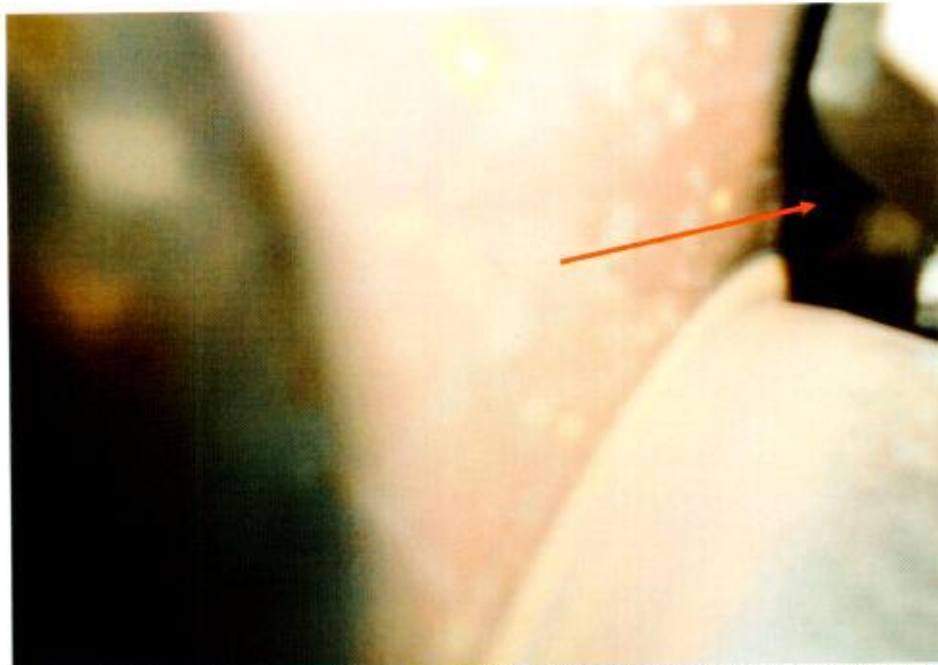


**Photo 27** shows the front right brake pad of the Motor Car. It was observed to be in serviceable condition looking at the thickness of the brake pad at time of our inspection.



**Photo 28** shows the front left brake pad of the Motor Car. It was observed to be in serviceable condition looking at the thickness of the brake pad at time of our inspection.

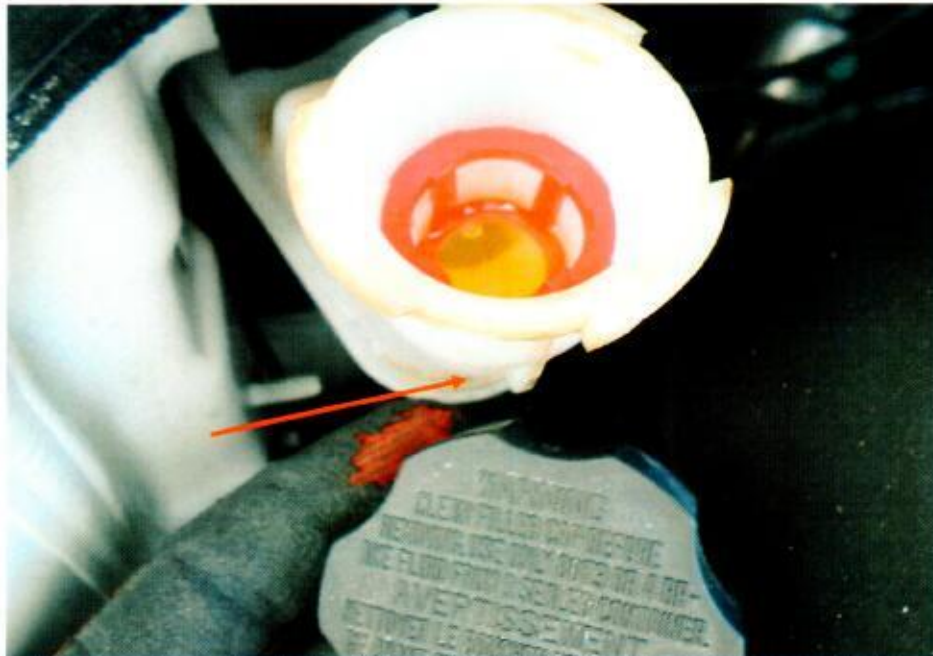




**Photo 29** shows the rear left brake pad of the Motor Car. It was observed to be in serviceable condition looking at the thickness of the brake pad at time of our inspection.



**Photo 30** shows the rear right brake pad of the Motor Car. It was observed to be in serviceable condition looking at the thickness of the brake pad at time of our inspection.



**Photo 31** shows the brake fluid of the Motor Car. It was observed to be of sufficient level for operation purposes at time of our inspection.

### **Electronic Safety / Warning Indicators**

16. The Motor Car's automatic self-test of the functionality of its various electronic operating systems such as the Anti-Lock Braking System (ABS) and Supplemental Restraint System (SRS) were unable to initialize at time of our inspection. Warning indicators were observed to be lighted up upon cranking of engine was observed indicating malfunction on the electronic system.
17. The Supplemental Restraint System (SRS) of the Motor Van was however likely to be in normal operating condition at the material time of the accident. The evidence of the deployed driver's airbag indicates that the impact sensors and control module of the Motor Car's SRS were all in serviceable condition at the material time of accident. See photo 32 to 34 below.





**Photo 32** shows the warning indicators were observed to be lighted up upon cranking of the engine. It was observed to be operating abnormally likely due to the accident's impact collision. This indicates that the Motor Car electronic systems sustained system malfunction as a result of the accident.



**Photo 33** shows the driver seat airbag was activated indicating that the airbag system was in serviceable condition prior to the accident.



**Photo 34** shows the front passenger's seat airbag was activated indicating that the airbag system was in serviceable condition prior to the accident.

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

18. An 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 unable to be carried out. This was mainly due to the malfunctioning of the Motor Car's electronics system & damaged operating components include mechanical damages which hindered the systems to be in operational mode.

### **Conclusion**

19. For this particular case, we were unable to determine whether there was any possible mechanical failure to the Motor Car that may have contributed to the accident. This was mainly due to the extent of damage that the Motor Car had sustained as a result of the accident. However, the observations gathered from our physical inspection of the Motor Car had indicated no evidence to suggest possible mechanical failure to the Motor Car that may have contributed to the accident.



20. The front left, front right & rear right tyres were observed to be deflated due to the accident's impact. The front right tyres were observed to be severely damaged (torn) on the sidewall due to the accidents impact. However, the conditions of the Motor Car's 4 tyres were observed to be in serviceable condition despite the severe damages & deflation that we found at time of inspection. The tread patterns were obvious visually. The remaining tread depth of the front left, front right & rear left tyres was approximately 7mm.
21. As for the rear right tyre, it 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 tyre. It was also observed to be sufficiently inflated for vehicular operation. The remaining tread depth of the rear right tyre was approximately 8mm.
22. Our findings were based solely on a static and visual inspection of the Motor Car. No operational test could be carried out to the Motor Car due to malfunctioning of the Motor Car's electronics system & damaged operating components include damaged mechanical components at time of inspection.



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