

Your Ref: GBJ 391U
Our Ref : CI/TP22011381/D

14 November 2022

ASK Leasing Pte Ltd

5 Ubi Link #02-02
Singapore 408548

MECHANICAL INSPECTION REPORT OF MOTOR LORRY GBJ 391U

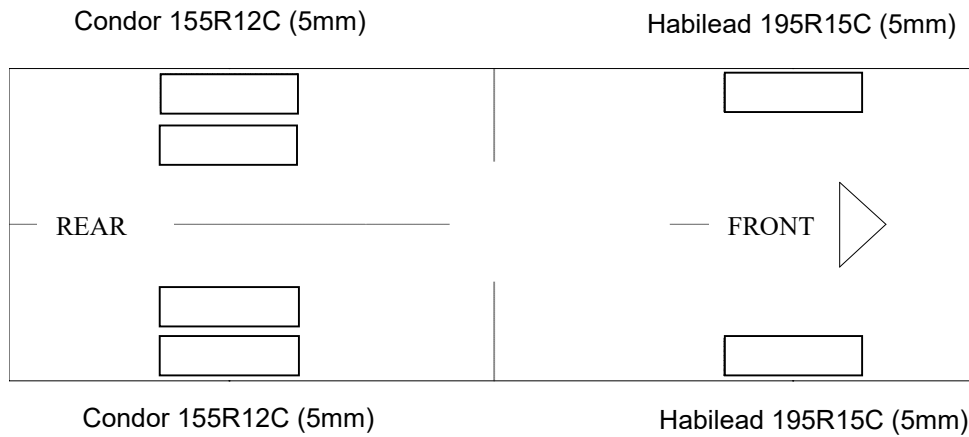
1. I refer to your request on 08 November 2022 to conduct a physical inspection of a motor lorry bearing registration number GBJ 391U (herein referred to as "**Motor Lorry**"), which was involved in a road traffic accident.
2. The objective of this inspection is to determine if there was any possible mechanical failure to the Motor Lorry that may have contributed to the accident.
3. Following the request, I had carried out a physical inspection of the Motor Lorry on 09 November 2022 at the premises of N-51 Automotive Pte Ltd, 2 Kaki Bukit Avenue 2 #01-17 Kaki Bukit Autohub, Singapore 417921. I now set out below my observations and comments with respect to this inspection.

General Condition

4. The mileage of the Motor Lorry recorded at the time of my inspection was 122,417km.
5. The Motor Lorry was observed to have sustained relatively minor impact damage at its frontal portion. Body parts damaged include the front bumper, front number plate, front grille, front centre panel and front right headlamp amongst others.

Tyres and Wheel Rims

6. The 2 front tyres and 4 rear tyres of the Motor Lorry were observed to be in serviceable condition ie tread pattern clearly visible 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 6 tyres. The tyre brand, tyre size and remaining tread depth of the 6 tyres of the Motor Lorry were recorded as follows: -



7. The 6 tyres were also observed to be wrapped around standard alloy wheel rims that were found to be without any damage. See photo 1 – 9 below.



Photo 1 shows a general view of the front right body of the Motor Lorry at the time of my inspection. The Motor Lorry was observed to have sustained relatively minor impact damage at its frontal portion (circled). Body parts damaged include the front bumper, front number plate, front grille, front centre panel and front right headlamp amongst others



Photo 2 shows a closer view of the damaged front bumper, front number plate and front grille of the Motor Lorry.



Photo 3 shows a closer view of the damaged front right headlamp of the Motor Lorry.



Photo 4 shows a general view of the front left body of the Motor Lorry at the time of my inspection. The Motor Lorry was observed to be in good general condition. Some relatively minor impact damage was observed at its frontal portion. The mileage of the Motor Lorry at the time of my inspection was 122,417km.



Photo 5 shows a general view of the Motor Lorry's rear left body at the time of my inspection. There was no damage observed to the rear portion of the Motor Lorry. The mileage of the Motor Lorry at the time of my inspection was 122,417km.



Photo 6 shows the front left tyre of the Motor Lorry, which was observed to be in serviceable condition with remaining tread depth of approximately 5mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation. Overall, there was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 6 tyres that were fitted on the Motor Lorry.



Photo 7 shows the front right tyre of the Motor Lorry, which was observed to be in serviceable condition with remaining tread depth of approximately 5mm. The tyre, which was wrapped around standard alloy wheel rim, was also observed to be sufficiently inflated for vehicular operation.



Photo 8 shows the rear left tyres of the Motor Lorry, which was observed to be in serviceable condition with remaining tread depth of approximately 5mm. The tyres, which were wrapped around standard alloy wheel rim, were also observed to be sufficiently inflated for vehicular operation. Overall, there was also no damage found on all 6 alloy wheel rims of the Motor Lorry.



Photo 9 shows the rear right tyres of the Motor Lorry, which were observed to be in serviceable condition with remaining tread depth of approximately 5mm. Overall, there was no tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 6 tyres that were fitted on the Motor Lorry.

Engine Compartment & Operating Fluids

8. Upon examination of the Motor Lorry's engine compartment, I 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.
9. Further examination of the engine compartment revealed no fluid leakage and/or fluid stain within the engine compartment of the Motor Lorry.
10. My subsequent checks on the underside of the Motor Lorry also revealed no fluid leakage and/or fluid stain. Visually, the various undercarriage components of the Motor Lorry were all observed to be intact and without any visible damage. See photo 10 – 15 below.



Photo 10 shows the Motor Lorry with its front cabin lifted to facilitate my checks of its engine compartment. Overall, I had found the various parts and components inside the engine compartment to be intact and unaffected by the accident. There was also no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment. The various operating fluids like 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.

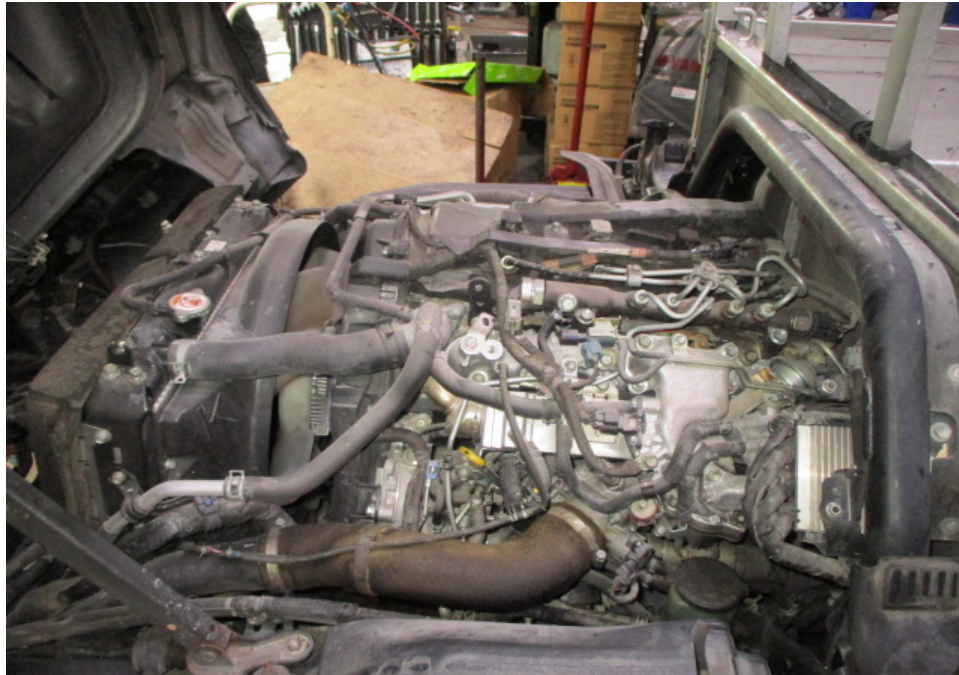


Photo 11 shows a general view of the Motor Lorry's engine compartment. The various parts and components inside the engine compartment were unaffected by the accident. There was also no sign(s) or indication(s) of fluid leakage and/or fluid stain within the engine compartment (photograph shows the engine compartment as viewed from the left front side of the Motor Lorry).



Photo 12 shows another view of the Motor Lorry'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 (photograph shows the engine compartment as viewed from the right front side of the Motor Lorry).



Photo 13 shows the brake fluid reservoir of the Motor Lorry at the time of my inspection. The brake fluid was observed to be of sufficient level and without any visible contamination.



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



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

Steering System & Braking System

11. Static brake tests conducted on the Motor Lorry revealed no abnormality. The brake booster had responded well to the various tests conducted. There was also no abnormal movement of the brake pedal when it was depressed. In general, the static brake tests had indicated that there was no internal leakage of pressure/vacuum in the braking system of the Motor Lorry.
12. In addition, the front brake pads of the Motor Lorry were also checked and found to be with sufficient frictional material for operational purposes. The braking system of the Motor Lorry was hence likely to be in serviceable condition at the material time. This was also taking into consideration that the brake fluid was of sufficient level, and also that there was no sign(s) of brake fluid leakage along the brake hoses and brake pipes.
13. Static test on the steering system of the Motor Lorry also revealed no abnormality to the steering system. I did not experience any abnormal free play and/or other resistance when turning the steering wheel left and right to full lock positions. My visual examination of the various steering components which had included the rack and pinion, tie rod ends and ball joints had revealed that these components were all generally in good condition. See photo 16 - 22 below.



Photo 16 shows the brake fluid pipe (arrowed) at the rear right wheel of the Motor Lorry. I did not observe any leakage of brake fluid at the time of my inspection of the Motor Lorry. My static tests of the Motor Lorry's braking system, along with my visual examination of the various mechanical components in the braking system, had indicated that there was no internal leakage of pressure/vacuum. The braking system of the Motor Lorry was likely to be in serviceable condition at the material time of accident.



Photo 17 shows the front left wheel of the Motor Lorry turned to its full right. During my steering system test, I did not experience any abnormal free play and/or resistance when I had turned the steering wheel towards full left and full right. This would indicate that the steering system of the Motor Lorry was likely to be in serviceable condition at the material time of accident.

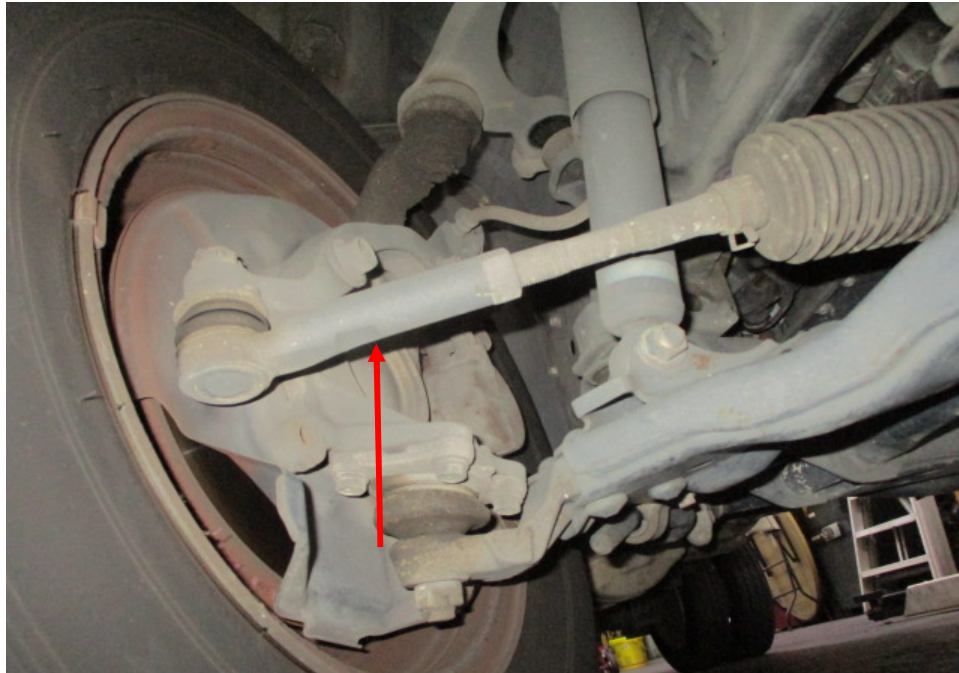


Photo 18 shows the various undercarriage components at the front right wheel of the Motor Lorry, in particular the steering tie rod end (arrowed). The various steering components were all found to be intact, indicating that the steering system of the Motor Lorry was likely to be in serviceable condition at the material time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.

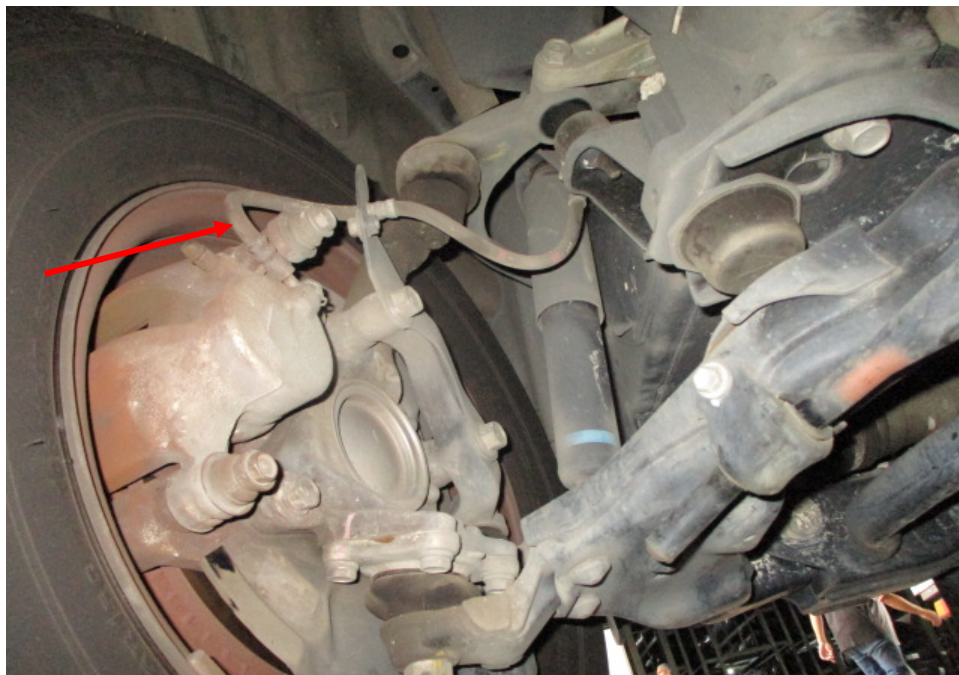


Photo 19 shows the various undercarriage components at the front left wheel of the Motor Lorry, in particular the brake fluid hose (arrowed). I did not observe any leakage of brake fluid at the time of my inspection of the Motor Lorry. My static tests of the Motor Lorry's braking system had indicated that its braking system was likely to be in serviceable condition at the material time of accident.



Photo 20 shows the Motor Lorry being jacked up at its frontal portion for removal and checks of its front brake pads.



Photo 21 shows the Motor Lorry's front right brake pad after it was removed. The front right brake pad was found to be with sufficient frictional material (arrowed) for operational purposes.

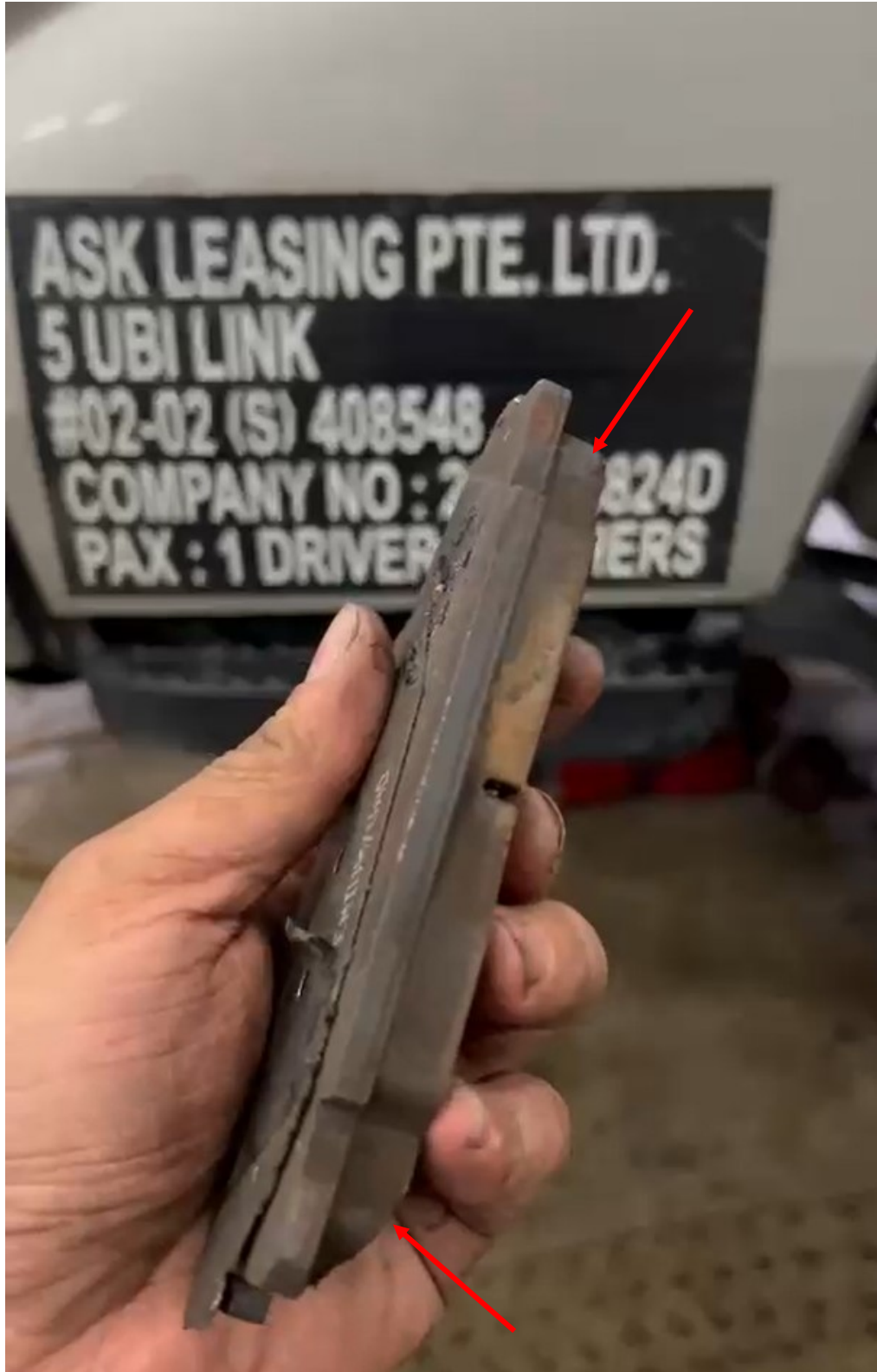


Photo 22 shows the Motor Lorry's front left brake pad after it was removed. The front left brake pad was found to be with sufficient frictional material (arrowed) for operational purposes

Electronic Safety / Warning Indicators

14. The Motor Lorry's automatic self-test of the functionality of its various electronic safety and warning features like the Supplemental Restraint System (SRS), warning lights for engine oil level and engine oil pressure, charging system, check engine light etc during cranking of the engine had indicated that these electronic safety systems and warning features were all in working condition. This was determined from the respective warning lights disappearing from the instrument panel after the self-test. See photo 23 & 24 below.



Photo 23 shows the warning lights for the various electronic safety features and warning features like the Supplemental Restraint System (SRS), warning lights for engine oil level and engine oil pressure, charging system, check engine light etc appearing on the instrument panel of the Motor Lorry during its self-test when the engine is cranked.



Photo 24 shows the warning lights no longer illuminated, indicating that there is no fault detected to the electronic safety features and warning features of the Motor Lorry during the self-test. These electronic safety systems and warning features of the Motor Lorry like the Supplemental Restraint System (SRS), warning lights for engine oil level and engine oil pressure, charging system, check engine light etc were all hence in working condition.

Operational Behaviour of the Motor Lorry


15. A short operational test of the Motor Lorry, to primarily determine whether there was any abnormality to its various operating systems like its engine system, its transmission system, steering system and braking system was also carried out at the time of my inspection. The test was conducted by driving the Motor Lorry within the building premises of Kaki Bukit Autohub.
16. During the operational test, the various transmission gears of the Motor Lorry were able to be engaged without any difficulty by stepping on the clutch pedal and manually shifting the gear lever. There were no abnormal sounds heard and/or abnormal behaviour of the Motor Lorry'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 Lorry was able to slow down and come to a complete stop upon depressing of the brake pedal and/or immediate stop during emergency braking test. A video footage of this test drive was recorded and annex in this report.

Others

17. My checks with both local and international bodies and associations revealed that at the time of writing this report, there is a manufacturer recall campaign dated 06 July 2020, which involved the Motor Lorry. The purpose of the recall was due to inappropriate routing of the wire harness behind the front headlamps.
18. Based on LTA's record, rectification to address the issue has not been carried out to the Motor Lorry as at the time of this report. Notwithstanding this, I note that the issue that triggered the manufacturer recall campaign was of electrical in nature and not of mechanical in nature and therefore, the issue would not have caused and/or contributed to this particular road traffic accident. See search result from LTA below.

Vehicle Recall Details

* ONLY INFORMATION ON VEHICLE RECALLS SUBMITTED FROM 9 APRIL 2007 IS AVAILABLE

Owner ID Type Company
Owner ID 824D
Vehicle No. GBJ391U 
Make/Model TOYOTA/ DYNA 150 5MT
Engine No.: 1KD2836308 Chassis No.: JTFAT35Y90K212208

Recall No.: R2020070879

Manufacturer Recall Date:

06 Jul 2020

Estimated Completion Year of Recall:

2021

Brief Description (As Provided by Motor Dealer):

In the engine wire harness located behind the headlamp of the subject vehicles, due to inappropriate routing of the wire harness, there is a possibility that a portion of the wire harness could contact the air conditioner hose base causing the insulation on the wires to wear over time by vibration during vehicle use.

Date Rectified:

-

Hotline Information:

TOYOTA CUSTOMER SERVICE at 66311188

For more details, contact BORNEO MOTORS (SINGAPORE) PTE LTD

Screenshot shows the LTA search result regarding the manufacturer recall campaign that involved the Motor Lorry. I note that rectification to address the purpose of the recall has not been carried out to the Motor Lorry as at the time of this report. Notwithstanding this, I also note that the issue that triggered the manufacturer recall campaign was of electrical in nature and not of mechanical in nature and therefore, the issue would not have caused and/or contributed to this particular road traffic accident.

Conclusion

19. From my physical inspection of the Motor Lorry, it appears that its engine system, steering system, braking system and transmission system were all in serviceable condition. I did not find any evidence(s) to suggest that there was possible mechanical failure to the Motor Lorry that may have caused and/or contributed to the accident.
20. An operational test of the Motor Lorry, which I had conducted, did not produce any sign(s) or symptom(s) to suggest that there was any abnormality to its various operating systems. The steering system had responded well to my steering inputs and the braking system was able to effectively stop the Motor Lorry during the test drive.

21. The 2 front tyres and 4 rear tyres fitted on the Motor Lorry were also found to be in serviceable condition ie tread pattern clearly visible 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 6 tyres. The remaining tread depth of the 6 tyres were approximately 5mm each.
22. The Motor Lorry was involved in a manufacturer recall campaign dated 06 July 2020. As at the time of this report, rectification to address the issue has not been carried out. Notwithstanding this, the issue did not cause and/or contribute to this particular road traffic accident.

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

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