



Your Ref: D18004775MFSH  
Our Ref : CI/FCI18011332/N

20 June 2018

**M/s First Capital Insurance Limited**  
36 Robinson Road #16-01  
City House  
Singapore 068877

### **MECHANICAL INSPECTION REPORT OF MOTOR TAXI SHC 592Y**

1. We refer to your request on 18 June 2018 to conduct a physical inspection of a motor taxi bearing registration number SHC 592Y (herein referred to as "**Motor Taxi**"), which was involved in an accident on 17 June 2018.
2. The objective of the inspection is to determine if there was any possible mechanical failure to the Motor Taxi that may have contributed to the accident.
3. Following the request, we had carried out a physical inspection of the Motor Taxi on 19 June 2018 at the premises of ComfortDelGro Engineering Pte. Ltd. (herein referred to as "**CDGE**") located at 59 Loyang Drive, Singapore 508969. We now set out below our observations and comments with respect to this inspection.

#### **General Condition**

4. The mileage of the Motor Taxi at the time of our inspection was 789,014km.
5. The Motor Taxi had sustained relatively minor impact damage that was confined to its frontal portion. Its front bumper was observed to have been dislodged; its front number plate had broken off; the front number plate holder had cracked; its front bonnet had dents as well as a vertical tear and the right side panel was observed to be dented.

#### **Tyres and Wheel Rims**

6. The condition of the Motor Taxi'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 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 4 tyres were observed to be wrapped around standard wheel rims that were found to be without any significant damage apart for some relatively minor kerb grazing type of damage. See photos 1 – 11 below.



Photo 1 shows a general view of the front body of the Motor Taxi at the time of our inspection. The Motor Taxi had sustained relatively minor impact damage that was confined to its frontal portion. Its front bumper was observed to have been dislodged, its front number plate had broken off, the front number plate holder had cracked, its front bonnet was bent at the right portion and had dents as well as a vertical tear and the right side panel was observed to be dented. The mileage of the Motor Taxi was recorded to be 789,014km.



**Photo 2** shows a closer view of the cracked front number plate holder of the Motor Taxi at the time of our inspection.



**Photo 3** shows a closer view of the dislodgement observed at the right corner of the front bumper of the Motor Taxi at the time of our inspection (circled).





**Photo 4** shows a closer view of the dislodgement observed at the left corner of the front bumper of the Motor Taxi at the time of our inspection (circled).



**Photo 5** shows a closer view of the dents (arrowed) as well as a vertical tear (circled) observed on the front bonnet of the Motor Taxi at the time of our inspection.



**Photo 6** shows a closer view of the bent front bonnet of the Motor Taxi at the time of our inspection (arrowed).



**Photo 7** shows a closer view of the dent observed at the right side panel of the Motor Taxi at the time of our inspection (circled).



**Photo 8** shows the condition of the front right tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 5mm. The tyre, which was wrapped around standard wheel rim, was also observed to be sufficiently inflated for vehicular operation.



**Photo 9** shows the condition of the front right tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 5mm. The tyre, which was wrapped around standard wheel rim, was also observed to be sufficiently inflated for vehicular operation. The 4 wheel caps fitted on the outer side of the wheel rims of the Motor Taxi were found to be with kerb grazing type of damage.



**Photo 10** shows the condition of the rear right tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 6mm. The tyre, which was wrapped around standard wheel rim, was also observed to be sufficiently inflated for vehicular operation.



**Photo 11** shows the condition of the rear left tyre of the Motor Taxi, which was observed to be in serviceable condition with remaining tread depth of approximately 6mm. The tyre, which was wrapped around standard wheel rim, was also observed to be sufficiently inflated for vehicular operation.



### Engine Compartment & Operating Fluids

8. Upon examination of the engine compartment of the Motor Taxi, we had observed all the parts and components inside the engine compartment to be intact and unaffected by the accident. The brake fluid, power steering fluid, auto transmission fluid (ATF), 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 operating 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 Taxi.
10. Our subsequent checks on the underside of the Motor Taxi also revealed no fluid stain. Visually, the various undercarriage components of the Motor Taxi were found to be intact and without any visible damage. See photos 12 – 16 below.



Photo 12 shows the brake fluid reservoir of the Motor Taxi at the time of our inspection. The brake fluid was observed to be of sufficient level and without any visible contamination.

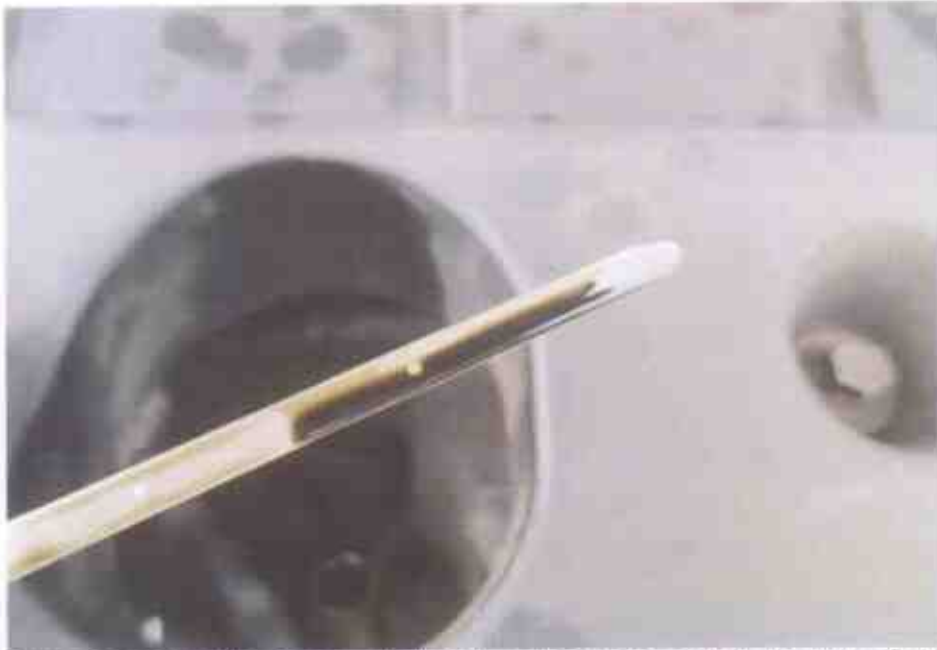




**Photo 13** shows the power steering fluid reservoir of the Motor Taxi at the time of our inspection. The power steering fluid was observed to be of sufficient level and without any visible contamination.



**Photo 14** shows checks being carried out to the engine coolant of the Motor Taxi at the time of our inspection. The engine coolant was observed to be of sufficient level and without any visible contamination.



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



**Photo 16** shows the ATF dipstick of the Motor Taxi at the time of our inspection. The ATF was observed to be of sufficient level and without any visible contamination.

### Steering System & Braking System

11. Static brake tests conducted on the Motor Taxi 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 suggested that there was no internal leakage of pressure/vacuum in the braking system of the Motor Taxi. The braking system of the Motor Taxi was likely to be in serviceable condition at the material time. This was 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.
12. Static test on the steering system of the Motor Taxi 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 photos 17 - 20 below.



**Photo 17** shows the brake hose/pipe (arrowed) at the rear left wheel of the Motor Taxi. We did not observe any leakage of brake fluid at the time of our inspection of the Motor Taxi. Static tests of the Motor Taxi's braking system had indicated that there was no internal leakage of pressure/vacuum. Hence the braking system was likely to be in serviceable condition at the material time of accident. The undercarriage components of the Motor Taxi were also all found to be intact and without any visible damage.





**Photo 18** shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Taxi. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper, brake booster, brake pedal etc had revealed all to be intact and without visible damage.



**Photo 19** shows the various undercarriage components at the front right wheel of the Motor Taxi, 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 Taxi was likely to be in serviceable condition at the material time of accident. There was also no sign of fluid stain observed on the various undercarriage components at the front right wheel of the Motor Taxi.



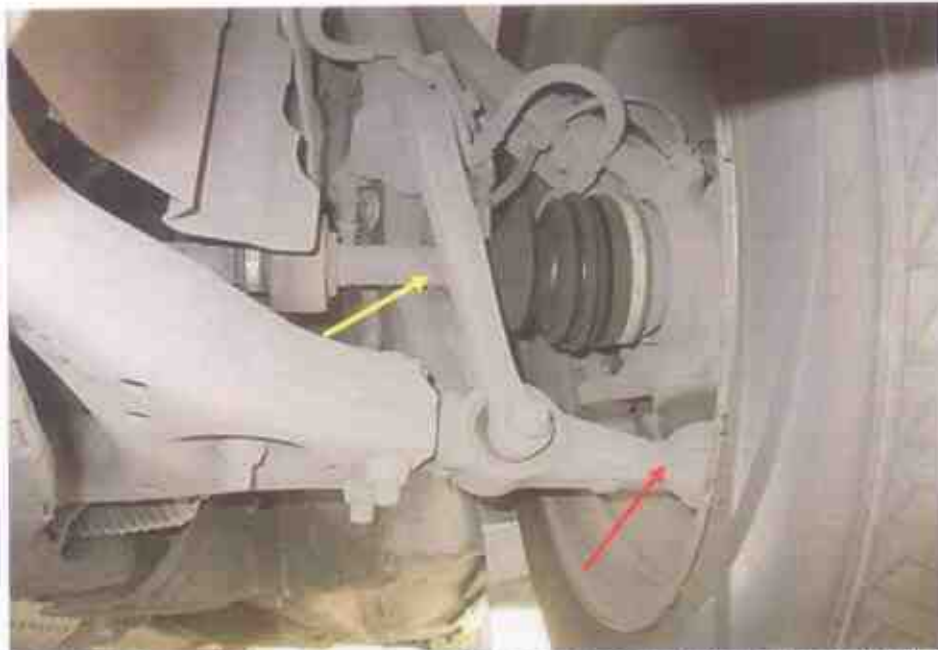


Photo 20 shows the various undercarriage components at the front left wheel of the Motor Taxi, which had included the steering tie rod (red arrow) and left drive shaft (yellow arrow). The various undercarriage components of the Motor Taxi were all found to be intact without any visible damage.

### Electronic Safety / Warning Indicators

13. The Motor Taxi's automatic self-test of the functionality of its various electronic operating systems like the Anti-Brake Lock System (ABS) and warning indicator lights such as the engine as well as glow plugs 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 photos 21 & 22 below.



**Photo 21** shows the warning lights for the various electronic operating systems and indicators of the Motor Taxi appearing on its instrument panel during the self-test when the engine is cranked, in particular the ABS light, glow plugs indicator and engine warning light (arrowed).



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

### **Operational Behaviour of the Motor Taxi**

14. A short operational test of the Motor Taxi, to primarily determine whether there was any abnormality to its engine system, its transmission system and braking system was subsequently carried out.
15. During the operational test, the transmission system of the Motor Taxi 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 Taxi'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 Taxi was able to slow down and come to a complete stop upon depressing of the brake pedal.
16. During the course of our investigations, we were also able to obtain from Mr Larry Ng, who is a service advisor at CDGE, documents relating to the servicing of the Motor Taxi for the past 3 months. We noted that was an issue with the power steering in the Motor Taxi but it was rectified as per the 8 March 2018 and 12 April 2018 invoices without further complaint of similar nature recorded.
17. The latest servicing package dated on 25 May 2018 included changing of engine oil, oil filter, air filter, diesel filter and auto transmission fluid (ATF). The oil pan assembly was replaced. The left rear tyre was patched. The brakes were also checked and adjusted. Refer to Invoices 1- 3 below.



Date: 18.06.2018 TAXI SERVICE HISTORY

Time: 10:09:52

YTSS11F

Page: 1

Taxi No: SHC 592Y ← Model: SONATA Reg Date: 27.01.20  
11 Workshop: LY

Serviced on: → 08.03.2018 / 14:15:00 Time Out: 08.03.20  
18 / 17:56:53  
Remarks: ( Next Minor PM-12/04/2018 time-15:00 )  
Job Card No: 602739639 Type: JP Odometer Reading  
: 763,915

PM/PROBLEM REPORTED

HSA HYUNDAI SONATA DOCKING (Minor)  
12.1 Steering Noisy ( noisy when turning )  
17.3 Door Lock -  
FR / FL/ RR / RL ( R/R noisy when close )  
H000 Mechanic Team Repair -

S021 Service A/C filter and Radiator  
S022 Clear A/C drain pipe  
QC QC TEST BY LAT  
Chong Kam Seng

MATERIAL CHANGED

SN	DESCRIPTION	QTY
1	SNTVC OIL FILTER (S)	
2	1.000 EAC	
2	SNTVC UPPER ARM REAR RH	
3	1.000 EAC	
3	SNTVC ARM ASSY -	
RR UPPER LH	1.000 EAC	
4	SNTVC POWER STEERING PUMP	
5	1.000 EAC	
5	(ALL) POWER STEERING FLUID, DEXRONIII PSF4	
6	1.000 LTR	
6	(ALL) SPARK PowerSyn, Fully Syn 5W40	
7	5.920 L	
7	(ALL) SPARK PowerSyn, Fully Syn 5W40	
8	0.570 L	
8	SNTV2 BRACKET ASSY-	
ENGINE MTG	1.000 EAC	

REMARKS

SN	DESCRIPTION
7	HSA - Minor Docking

Invoice 1 shows the servicing done on the Motor Taxi on 8 March 2018 (arrowed). There was an issue with the power steering in the Motor Taxi (circled). The upper steering arm and power steering pump were replaced.





Serviced on: → 12.04.2018 / 14:49:00 Time Out: 12.04.2018 / 17:42:27  
Remarks: ( Next Major PM-25/05/2018 time-10:30 )  
Job Card Nos: 602764959 Type: JP Odometer Reading : 772,277

PM/PROBLEM REPORTED

HSA HYUNDAI SONATA DOCKING (Minor)  
1.0 Aircon Team Repair -  
Chin Woon Foo  
1.1 A/Con Not Cold  
1.2 A/Con Poor Air Flow  
12.1 Steering Noisy | noisy when turning & reverse  
|  
QC QC TEST BY LAT -  
Chin Woon Foo

MATERIAL CHANGED

SN	DESCRIPTION	QTY
1	SNTVC OIL FILTER (5)	
	1.000 EAC	
2	SNIV2 MOTOR-	
RADIATOR COOLING FAN		1.000 EAC
3	SNIV2 DRIVE SHAFT ASSY RH (LONG)	
	1.000 EAC	
4	SNTVC BRAKE PAD-	
FRONT (G)		1.000 SET
5	(ALL) (EURO IV) ENGINE OIL F SYN SAE 5W30	
	5.930 L	

Invoice 2 shows the servicing done on the Insured Vehicle on 12 April 2018 (arrowed). There was still an issue with the power steering in the Motor Tax reported (circled). The drive shaft assembly was replaced as a result.



Serviced on: → 25.05.2018 / 10:47:00 Time Out: 25.05.2018 / 16:10:15  
Remarks: ( Next Minor PM-11/07/2018 time-15:30 )  
Job Card No: 602792144 Type: JP Odometer Reading : 783,504

PM/PROBLEM REPORTED

HSB HYUNDAI SONATA DOCKING (Major)  
14.1 Tyre Bald/Uneven Wear [ CHECK ]  
14.2 Patch Tyre -  
FR / FL / RR / RL / S [ RL TYRE PATCH ]  
17.7 Seat Torn - FR / FL / R [ FL TORN ]  
17.8 Others [ CHECK ADJUST BRAKE ]  
H000 Mechanic Team Repair -  
Loh Gian Wei  
QC QC TEST BY LAT -  
Ang Swee Han

MATERIAL CHANGED

SN	DESCRIPTION	QTY
1	SNTVC CABIN FILTER AIRCON 97133-	
2B010	1.000 EAC	
2	SNTVC OIL FILTER (S)	
	1.000 EAC	
3	SNTVC AIR FILTER(S)	
	1.000 EAC	
4	SNTVC DIESEL FUEL FILTER WHITE	
	1.000 EAC	
5	SNTVC SEAT COVER FRT-	
DRIVER	1.000 EAC	
6	(ALL)UNIVERSAL CLEANER(600ML) CL.2 D.G	
	1.000 EAC	
7	(SONATA)-ATF, FULLY SYN SPIII	
	4.000 LTR	
8	SNTVC HANKOOK 215/60R16 H724	
	1.000 EAC	
9	SNTVC OIL PAN ASSY	
	1.000 EAC	
10	SNTVC HANKOOK 215/60R16 H724	
	1.000 EAC	
11	(ALL)(EURO IV)-ENGINE OIL F SYN SAE 5W30	
	5.950 L	

Invoice 3 shows the servicing done on the Insured Vehicle on 25 May 2018 (arrowed). The latest servicing package included changing of engine oil, oil filter, air filter, diesel filter and auto transmission fluid (ATF). The oil pan assembly was replaced. The left rear tyre was patched. The brakes were also checked and adjusted.

## Conclusion

18. From our physical inspection of the Motor Taxi, 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 Taxi that may have caused and/or contributed to the accident.
19. A short operational test of the Motor Taxi, 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.
20. The 4 tyres of the Motor Taxi were also found 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 with remaining tread depth of approximately 5mm each.



**Muhd Nazril**

*Technical Investigator*

**Ang Bryan Tani**

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