

Your Ref : D20001724M/CT/EE  
Our Ref : CI/FCI20005562/N

6 April 2020

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

**TECHNICAL INVESTIGATION REPORT OF FIRE INCIDENT INVOLVING THE  
INSURED VEHICLE SHA 4128P ON 31 MARCH 2020**

1. We refer to your letter dated 31 March 2020 and the instructions therein.
2. Our analysis, comments and opinions with respect to the cause of fire to the insured vehicle SHA 4128P (herein referred to as "**Insured Vehicle**") are set out below.

**Inspection of the Insured Vehicle**

3. The Insured Vehicle was physically inspected on 6 April 2020 at the premises of Traffic Police vehicle pound, located at 517 Airport Road Singapore 539942. A static inspection was carried out the Insured Vehicle where the following general information was recorded:-

Vehicle Registration No.	: SHA 4128P
Make / Model	: HYUNDAI / I40 1.7 CRDI F/L AT ABS AIRBAG 4DR
Chassis No	: KMHLB41UMHU096579
Year of Registration	: November 2016
Mileage	: N.A. (battery melted)

4. The Insured Vehicle was noted to have sustained fire damage that was confined to its front portion. The entire engine compartment of the Insured Vehicle was observed to be severely burnt while the interior compartment was observed to be severely affected by the fire.
5. The fire had resulted in the body parts at the front portion of the Insured Vehicle to be burnt. This had included its front bumper, front bonnet, front support panel, front grille, front headlamps, front windscreen, front rims and front tyres amongst others. See photos 1 – 6 below.



**Photo 1** shows the general view of the rear portion of the Insured Vehicle at the time of our inspection. The rear portion of the Insured Vehicle was relatively unaffected by the fire.



**Photo 2** shows the general view of the front portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front portion. Its front bumper, front bonnet, front support panel, front grille, front headlamps, front windscreen, front rims and front tyres were amongst the body parts that were found to have been affected as a result of the fire.



**Photo 3** shows the closer view of the front portion of the Insured Vehicle at the time of our inspection. The fire damage to the Insured Vehicle was confined to its front portion. Its front bumper, front bonnet, front support panel, front tyres and front headlamps were amongst the body parts that were found to have been affected by the fire.



**Photo 4** shows the general view of the front windscreen of the Insured Vehicle at the time of our inspection. The fire damage to the windscreen was extensive.





**Photo 5** shows the engine compartment of the Insured Vehicle at the time of our inspection. The entire engine compartment of the Insured Vehicle was observed to be severely burnt. Most of the parts inside the engine compartment were found to be burnt and/or melted as a result of the fire.



**Photo 6** shows the interior compartment of the Insured Vehicle, which was severely affected by the fire.

6. At the time of inspection of the Insured Vehicle, we did not find any additionally fitted electronic and/or electrical component(s) on the Insured Vehicle. There also appears to be no modification(s) fitted on the Insured Vehicle.

### **Incident Scene Photographs**

7. We were able to obtain photographs of the Insured Vehicle which were taken during the fire and after the fire had been extinguished. Our close examination of these photographs also showed no unusual foreign material(s) and/or object(s) found on the ground in the immediate area of the road where the Insured Vehicle was positioned.
8. Based on the incident scene photographs, the fire seems to have originated from the frontal portion of the Insured Vehicle. See photos 7 - 9 below.



**Photo 7** shows the Insured Vehicle on fire before the arrival of the SCDF.



**Photo 8** shows the Insured Vehicle on fire before the arrival of the SCDF (as taken from the rear portion). In general, based on the information that could be gathered from this photograph, the fire seems to have originated from the frontal portion of the Insured Vehicle.





**Photo 9** shows SCDF performing preliminary investigations on the Insured Vehicle after the fire was extinguished.

9. Pertaining to the maintenance aspect, the Insured Vehicle is serviced at a ComfortDelGro workshop located in Loyang.
10. During the course of our investigations, we were also able to obtain from Mr Tan Chin Wee, who is the contact person for vehicle maintenance and repair issues at CDGE, documents relating to the servicing of the Insured Vehicle. The Insured Vehicle was serviced twice in March 2020, once on 2 March 2020 and again on 19 March 2020, 2 weeks before the incident occurred.
11. We noted in particular during the 2 March 2020 servicing, the late driver of the Insured Vehicle, Mr Ng Boon Huat (herein referred to as “**Mr Ng**”) had highlighted several issues, namely, engine oil overflow, wobbly steering and a noisy undercarriage. The lower left hand and right hand arm and drive shaft assembly were changed during this servicing. Since then there were no issues of similar nature recorded by Mr Ng. The servicing package had included the changing of engine oil and oil filter.
12. During the 19 March 2020 servicing, Mr Ng had highlighted several issues, namely, the engine warning light and a vibrating engine mounting. The pressure sensor and gear box mounting were replaced during this servicing. Since then there were no issues of similar nature recorded by Mr Ng. Refer to Invoices 1 & 2 below.

### Service/Repair Summary Report (Green)

**ComfortDelGro Engineering Pte Ltd**

**JOB No. :** 000503107803 **JOB Type :** JP(ON TIME)

**PM Docking :** H15(HYUNDAI I-40 DOCKING 5)

**Vehicle No. :** SHA4128P

**Make/Model :** HYUNDAI I-40

**Name of Driver :** NG BOON HUAT

**Odometer Reading :** 591913

**Date In :** 02-03-2020 **Time In :** 13:07

**Date Out :** 02-03-2020 **Time Out :** 16:15

**Parking In :** TEAM

**Parking Out :** C-5


**Branch/Team :** CLY/TEAM 8

**Attended by :** SWEE CHUAH

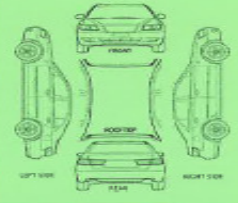
**Final Test Requested :** No

**Special Notes :**  
Reminder to Customer

**Next PM Date :** 17-04-2020 08:30:00  
**Road Tax Expiry Date :** 24-05-2020  
**Next T/ Belt Change :** 522277



**000603107803**




S No.	Code	Fault Description	Fault Remark	Action Taken	Repair Remark
<b>Miscellaneous</b>					
1	17.8	Others	engine oil over flow	Serviced	-
2	17.2	Window - FR / FL / RR / RL	RL AUTO SWITC	Checked no defect	-
<b>Steering System</b>					
3	12.2	Steering Wobble	80 KPH	Replaced	-
<b>Undercarriage Noisy</b>					
4	15.5	Undercarriage Noisy - Front Suspension	OVER HUMP	Replaced	-
5	15.6	Undercarriage Noisy - Rear Suspension	OVER HUMP	Checked no defect	-

### Service/Repair Summary Report (Green)

**ComfortDelGro Engineering Pte Ltd**

**I acknowledged the collection of my vehicle and key**  
 本人确认以领取车辆和钥匙。

**Customer Signature**



**000603107803**

**\* Downtime will be credited into your bank account within 2 working days**  
 维修时间费用将会在两个工作日汇入您的银行账户

S No.	Part Description	Qty
1	GLXXMOBIL-SUPER-3000-XE-5W30 (TOTE)	4
2	I40V3 ARM COMPLETE-FR LWR LH	1
3	I40V3 ARM COMPLETE-FR LWR RH	1
4	I40V3 DRIVE SHAFT ASSY LH (SHORT)	1
5	I40V3 DRIVE SHAFT ASSY RH (LONG)	1
6	I40VC OIL FILTER	1
7	LIQUI MOLY RAPID CLEANER(DEGREASER)500ML	1

S No.	Description	Test By	Date	Time
1	QC Test (By LAT)	Ong Tian Chen	02-03-2020	15:53:41
2	Final Test (By SA/FM/SUP)	N/A	N/A	N/A

**Invoice 1** shows the servicing done on the Insured Vehicle at the CDGE workshop at Loyang on 2 March 2020 (red arrows). We noted in particular during this servicing, there was an issue with engine oil overflow, wobbly steering and a noisy undercarriage as reported by Mr Ng (black arrows). The lower left hand and right hand arm and drive shaft assembly were changed during this servicing. Since then there were no issues of similar nature recorded by the late Mr Ng. The servicing package had included the changing of engine oil and oil filter (circled).



### Service/Repair Summary Report (Green)

ComfortDelGro Engineering Pte Ltd

000603134922

JOB No. : 000603134922 JOB Type : JC

PM Docking :

Vehicle No. : SHA4128P	Date In : 19-03-2020	Time In : 11:08
Make/Model : HYUNDAI i40	Date Out : 19-03-2020	Time Out : 12:40
Name of Driver : NG BOON HUAT	Parking In : TEAM	
	Parking Out : C-5	
	Branch/Team : CLY/TEAM 8	
	Attended by : SAY AJK	
	Final Test Requested : No	

Odometer Reading : 599245

Special Notes :  
Reminder to Customer

Next PM Date : 17-04-2020 08:30:00  
Road Tax Expiry Date : 24-05-2020  
Next T/J Belt Change : 622277

#### Fault/Repair Description

S No.	Code	Fault Description	Fault Remark	Action Taken	Repair Remark
<b>Dashboard</b>					
1	5.4	Engine Check Light ON	-	Replaced	-
<b>Vehicle Vibrate</b>					
2	15.3	Vehicle vibrate - Engine Mounting	Gear box Mounting	Replaced	-

#### Customer To Note

Inspection	
Breakdown Detail	
Downtime Rebate *	From : 19/03/2020 11:08:00 To : 19/03/2020 12:40:09

I acknowledged the collection of my vehicle and key  
本人确认以领取车辆和钥匙。

\* Downtime will be credited into your bank account within 2 working days  
维修时间费用将会在两个工作日汇入您的银行账户

Customer Signature

### Service/Repair Summary Report (Green)

ComfortDelGro Engineering Pte Ltd

000603134922

#### Part Replaced

S No.	Part Description	Qty
1	140VC BRACKET ASSY-TRANSAXLE MTO	1
2	140VC SENSOR-DIFF.PRESSURE	1

#### Test Detail

S No.	Description	Test By	Date	Time
1	QC Test (By LAT)	Eng Tian Chen	19-03-2020	12:32:04
2	Final Test (By SA/PM/SUP)	N/A	N/A	N/A

#### Advisory Notes:

Under the Road Traffic Act Chapter 275, R11, legislation 106, it is the duty of vehicle driver to ensure the road worthiness of the vehicle and the driver is to report to the workshop immediately for any deficiency on the vehicle, including the following pre-drive checks :

Check tyres condition including correct pressure  
Ensure brakes are in good working condition  
Ensure steering are in good and proper working condition  
Check all the lightings in proper working condition

咨询说明：  
根据陆路交通法令276章11条106款，车辆驾驶者有义务确保车辆具备在道路上行驶的条件，并且及时呈报车辆所出现的任何故障。其中包括以下驾驶之前的检查工作。

检查轮胎状况，确保气压正确  
确保煞车器操作正常  
确保方向盘操作正常  
确保所有灯光操作正常

Invoice 2 shows the servicing done on the Insured Vehicle at the CDGE workshop at Loyang on 19 March 2020 (red arrows). We noted in particular during this servicing, there was an issue with the engine warning light and a vibrating engine mounting. The pressure sensor and gear box mounting were replaced during this servicing (black arrows). Since then there were no issues of similar nature recorded by the late Mr Ng.

13. Based on the vehicle service record invoices provided, we are of the opinion that it is unlikely that the fire could have been caused by poor maintenance of the Insured Vehicle.
14. Based on the incident scene photographs and our physical inspection of the Insured Vehicle, the fire seems to have originated from the frontal portion (engine compartment) of the Insured Vehicle. Fire in the engine compartment is usually caused by either engine overheating, fluid leakage or electrical in nature.
15. Given the extent of fire damage for this case, we are unable to conclusively determine if the cause of fire to the Insured Vehicle was due to engine overheating, fluid leakage or electrical in nature.
16. Our checks with both local and international bodies and associations had revealed that at the time of writing this report, there is no manufacturer recall of electrical nature to similar make and model vehicle as the Insured Vehicle that may possibly be related to this incident. 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 821R
Vehicle No. SHA4128P	Make/Model HYUNDAI I40 1.7 CRDI F/LAT ABS AIRBAG 4DR
Engine No.: D4FDGU614140	Chassis No.: KMHLB41UMHU096579
Recall Details: No Recall Detail records	

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**Conclusion**

17. Having investigated and technically analysed the damages of burnt nature to the Insured Vehicle, we are of the view that the fire to the Insured Vehicle had originated from the engine compartment. In this aspect the cause of fire could be due to engine overheating, fluid leakage or electrical in nature. However, due to the extent of the fire damage, we are unable to conclusively determine the probable cause of fire to the Insured Vehicle.
18. We did not find any evidence which had suggested that the cause of fire to the Insured Vehicle was due to poor maintenance and/or, recurring electrical problem.
19. There were no modification(s) or additional electronic and/or electrical component(s) fitted on the Insured Vehicle at the time of our inspection of the Insured Vehicle.
20. Our investigations had also revealed that at the time of writing this report, there is no manufacturer recall of electrical nature to similar make and model vehicle as the Insured Vehicle that may possibly be related to this incident.

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

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