



### TECHNICAL REPORT – FIRE INVESTIGATION

<b>VEHICLE MAKE:</b>	XXXXXXXX	<b>REPORT DATE:</b>	13 <sup>th</sup> September 2015
<b>VEHICLE REG:</b>	XXXXXXXX	<b>DATE OF LOSS:</b>	XXXXXXXX
<b>INSURED:</b>	XXXXXXXXXXXX	<b>LOCATION:</b>	XXXXXXXXXXXX
<b>INSURER:</b>	XXXXXX	<b>CONTACT:</b>	XXXXXXXXXX
<b>CLAIM / POL No:</b>	XXXXXXXX	<b>DATE OF APP:</b>	XXXXXXXX



The vehicle as seen in Durban

Dear Quanita,

As instructed I travelled to Durban to inspect the above mentioned vehicle to ascertain the cause of the fire.

This report is based on my knowledge of the vehicle as well as information supplied, offering my opinion to the insurers on any technical issues uncovered that may affect the claim as well as on the circumstances that gave rise to the fire damage as seen in the report.

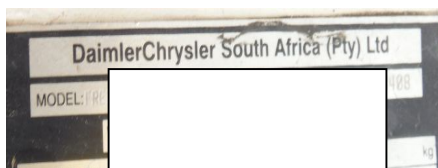
Where reference is made to roadworthiness of the vehicle, I am comparing the item under discussion with the relevant section(s) of the legislated requirements of SANS 10047 2009 – The Testing of Motor Vehicles for Roadworthiness.

**IDENTIFICATION TRUCK TRACTOR:**

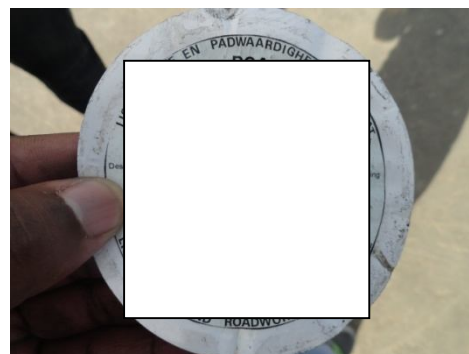
The vehicle was identified by its' registration plate and data on the license disc; and this matches the information provided by the Insurers for this vehicle.



Registration plate



VIN number



License Disc

Registering authority		
Vehicle register number		
Vehicle identification number		
Engine number		
Make		
Series name		
Vehicle category	He	
Driven		
Vehicle description		
Tare (T): kg		
Date of liability (first licensing not year model)		
Vehicle status		
Date liable for registration		
Last 3 licence numbers (most recent first, if available)		

Information provided by the Insurers

**DAMAGE:**

The assessor's report states:

*On inspection we found the cab interior completely burnt, the shell of cab partially burnt, the left side of engine burnt, the wire looms burnt and front air pipes, valves and fittings burnt. I am not a fire expert but it appears to me that fire started on the left side of engine, it seems like one of the ECM units had a problem. Please note that this is a common problem with this specific truck I have come across several of these types of issues in the past.*



Smoke damage on cab exterior



Thermal damage to cab interior



I agree with the Assessor's report that this vehicle is a write off and that the fire started on the left hand side of the engine, however, one of the vehicle's ECM's (Electronic Control Module) was not to blame. this will be elaborated on later in this report.

**ROADWORTHY ISSUES - TYRES:**

None of the tyres on the vehicle presented any problems with regards to roadworthiness; all had adequate tread life remaining and were free from any cuts or abrasions.



Axle 1 left



Axle 1 right



Axle 2 left – tyres missing



Axle 2 right



Axle 3 left



Axle 3 right

### **BRAKES:**

The vehicle is equipped with a dual circuit full pneumatic brake system that is assisted by a Bendix 4S/4M ABS system and the extremely effective Interbrake endurance engine braking system.

Parking / emergency braking effort is supplied by four double diaphragm combination spring brakes fitted to each of the rear drive wheel brake assemblies.

Foundation brakes consist of 'S' Cam type drum brakes on all six wheels. Brake adjustment is carried out automatically by Meritor automatic slack adjusters.

On the brake paths seen below you can see evidence of surface oxidization, there is no issue with this, as it is commonly known surface rust which can develop quickly in certain conditions. This vehicle has been standing for some time as the accident occurred in March 2015.

I found no technical issues with the brakes.



Axle 1 left



Axle 1 right



Axle 2 left



Axle 2 right



Axle 3 left



Axle 3 right

**CIRCUMSTANCES OF LOSS:**

The driver's statement reads:

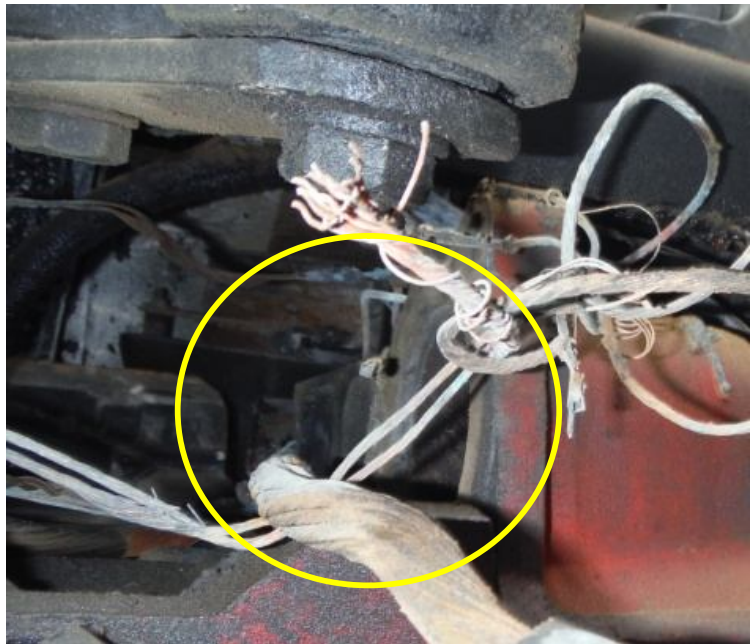
DRIVERS STATEMENT (If necessary, use separate page)	
I WAS PARKED OUTSIDE	TO ENTER THE PORT.
AS I DROVE INTO THE PORT NOT EVEN SEEN FROM THE FIRST	
CHECKPOINT. THE SECURITY ALERTED ME TO THE DANGER OF THE	
FIRE. I IMMEDIATELY JUMPED OFF THE VEHICLE AND NOTICED	
A BIG FLAME AT THE REAR OF THE VEHICLE I PROCEEDED	
TO PUT THE FLAMES OUT WITH A FIRE EXTINGUISHER.	
THE FIRE BRIGADE WAS STATIONED NEXT TO THE PORT.	
THEY SAW WHAT WAS HAPPENING AND CAME OUT IMMEDIATELY.	
THE FLAMES WERE EXTINGUISHED AND I NOTIFIED MY OFFICE	
OF THE INCIDENT	

After reading the above, when I arrived at the vehicle, experience with this model of truck tells me to look first of all at the starter motor as this is a common area for this type of fire to originate.

It was no surprise to find that the starter motor had been removed. I spoke to the manager at the Insured's yard asking where the starter motor was and for some time I was given the run around.

First one of the mechanics "looked" for it among several other starters on a shelf in the workshop, but couldn't find it. Then I was told it was used to repair another vehicle.

Eventually, after I told the people present that the claim would be held up until the starter motor appeared, the mechanic responsible for removing it arrived at the premises and after some time, the starter was "found".



Missing starter motor

I could already see from the state of the control wiring and main feed cables to the solenoid of the starter that a huge electrical overload had occurred at the starter motor.



Control wiring around starter

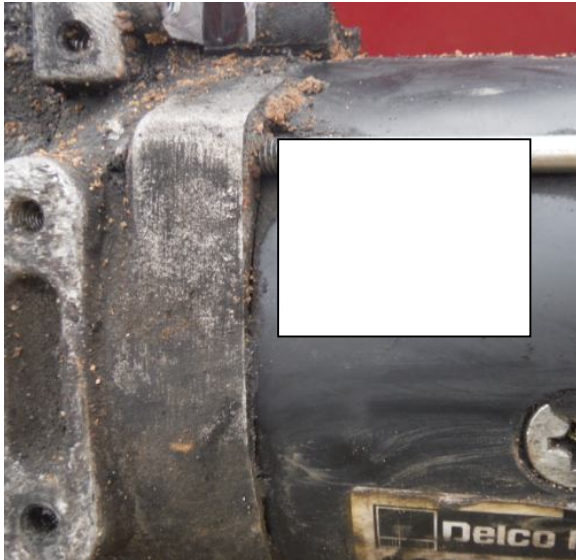


Axle 3 right

The differences in the colour of the copper wires in the photo above right indicate the electrically overloaded cable which turns a brighter gold color and the oxidized green color wires that have only been affected by the heat of the fire.

Once I was able to inspect the starter, it became clear why it had been removed and hidden from me.

The starter motor had been repaired (more than likely several times) in the past, which was identifiable by the job card number engraved on the stator housing and the solenoid was a replacement part of Chinese origin.



Repair job card number on starter



Non original solenoid

The wire that connects the main starter motor pole to the solenoid seen below left had clearly been overheated.



Overheated solenoid wire



Non original solenoid

The plastic housing where the two solenoid supply poles are mounted had melted and once its retaining screws had been removed, the smell of the burnt electrical insulator on the solenoid windings was present.

In order to further strip the solenoid for testing I would have needed to de-solder the connections, but as XXXX the yard manager and XXXXX, the Insured's mechanic were in agreement that the solenoid had in fact failed, I saw no need to carry on further.



The photo above right shows more evidence that this vehicle, as do most Argosy's, had suffered battery / starter supply issues where the main battery cables have undergone a lot of work in the past.

## **CONCLUSION:**

I am certain that an electrical overload caused by the starter motor solenoid failure was the origin of the fire and that the Insured may have a faulty workmanship claim against the repairer of the starter but his claim against the Insurers of the vehicle would fall under the exclusion which relieves liability in the event of a mechanical, electrical or electronic failure or breakdown, which this event clearly falls.

Because of this, I am certain that the Insurers would be fully justified in repudiating the claim should they wish to do so.

I hope this report has completely covered all aspects of the matter that you require. Should you need anything further, please do not hesitate to contact me.

Kind regards,

A handwritten signature in black ink, appearing to read 'Peter Banbury', with a stylized flourish at the end.

Peter Banbury  
076 012 6162