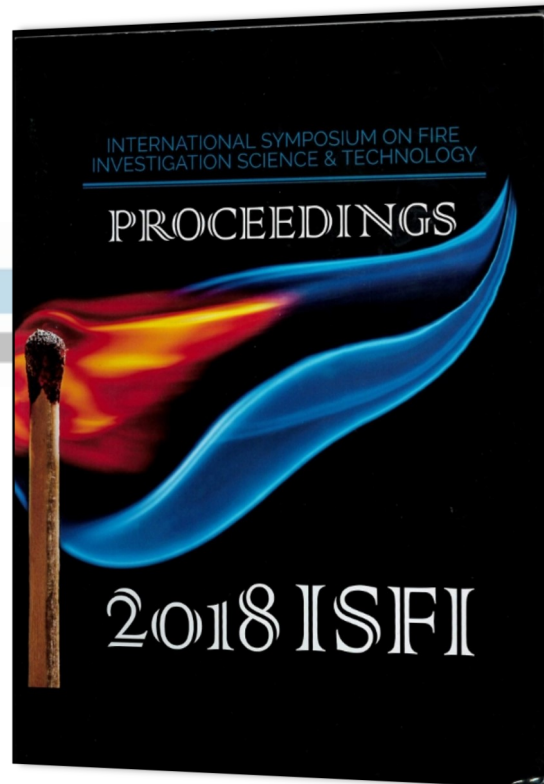


PUBLICATION:

***Case Study with a Fire Origin and Fire Cause Remotely Located From the Root Cause of the Failure in a Commercial Vehicle***

Douglas R. Stahl, PE, CFEI/CVFI  
Kerry D. Parrott, BSME, CFI, CFEI/CVFI

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SYNOPSIS:

Vehicles and equipment typically contain electrical power systems utilizing direct current (DC) power. Failures in the DC power circuits are one of the major types of fire causes in these.

The case study presented is of a fire that occurred in a commercial tractor-trailer which was reported as an “engine compartment fire”. It demonstrates the origination of a fire in an area of a vehicle physically separate and remote from the root cause of the fire. There are three significant issues relevant to fires involving such phenomena that are considered:

A fire may initiate at a location on the vehicle/equipment *where there is no defect, abnormality, or any other condition that would directly cause a fire* - prior to the

occurrence of another (root) cause which is completely remote and separated from the root cause failure location, yet part of the fire sequence.

The short/weld evidence that is the root cause in such a fire, is not located at, or surrounding, the origin of the fire - completely contrary to the theory of arc mapping as a means of fire origin determination - for vehicles and equipment utilizing DC power circuits and a common negative.

Retained fire evidence may need to include potentially pertinent critical root cause evidence that is remote and separate from a properly determined area of fire origin.