



Federal Aviation Administration

National Part 139 CertAlert

****Advisory****Cautionary****Non-Directive****Advisory****Cautionary****Non-Directive****Advisory****Cautionary****

Date: January 6, 2017 **No. 17-01**

To: Airport Operators, FAA Airport Certification Safety Inspectors (ACSI), Airport Operations, Aircraft Rescue and Fire Fighting (ARFF) Departments and Fixed-Based Fueling Operators

Subject: Fueling Vehicle Fire Safety Notice

Point of Contact: Marc Tonnacliff, AAS-300
marc.tonnacliff@faa.gov, (202) 267-8732

1. Purpose.

The purpose of this CertAlert is to:

- a. Provide advisory information about a fire involving an aviation fuel service vehicle during a refueling operation.
- b. Stress the need to ensure ALL fuel servicing vehicle cabs are kept clean of excess debris and unnecessary items.
- c. Identify whether a fuel service vehicle is equipped with an aftermarket hydraulic cab lift system or any other 12V DC equipment in which the battery terminal boots are exposed in the vehicle cab, which can potentially start a fire.
- d. Determine whether aluminum safety enclosures should be installed around hydraulic lift motors within fueling truck cabs.

2. Background.

On September 29, 2016, at Boston Logan International Airport during a refueling operation, a 7000-gallon fuel truck caught fire under the wing of an A310. The fire department found the fuel service vehicle cab and engine compartment were on fire and that the vehicle's fuel hose was still connected to the aircraft. Two employees attempted to extinguish the fire using hand held fire extinguishers but were not successful. Two ARFF trucks were dispatched on the initial response, engaged the fire with water and foam, and extinguished the fire.

There was a 12V electrically driven hydraulic motor (SPX Fluid Power DC20 T-58), similar to the one shown below, installed near the source of the fire. The motor powered the hydraulic lift to raise the fueling truck cab and is installed near the scene of the fire.



Typical 12V DC solenoid operated - power up, hold, gravity down power unit

A metal coat hanger was located next to the electrical motor. Based on the location of the hanger, investigators concluded that it likely made contact with the positive connection of the motor and its housing. This could have created conditions for sparking and electrical overheating.



Aftermath of September 29, 2016, fire

The photograph above shows there was flammable material stored in direct proximity to the scene of the fire in the truck cab. The combination of sparks, electrical overheating, and flammable materials could have caused the fire to develop.

Contributing factors to the cause of this fire incident include:

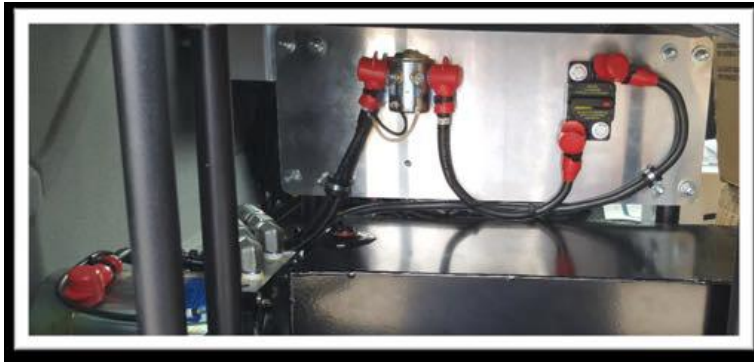
- a. Installing the electric hydraulic motor without protective covers over electrical terminal connections.

- b. Installing the electric hydraulic motor without an enclosure shielding it from foreign objects and flammable debris.
- c. The presence of a foreign conductive object in the electrical system.
- d. Flammable debris present in direct proximity to the electrical system.

3. Actions.

The Federal Aviation Administration (FAA) recommends all airports and FBOs inspect their fuel service vehicles to:

- a. Ensure fuel servicing vehicle cabs are clean and free from flammable debris.
- b. Ensure there are terminal boots on electrical connections.



Terminal boots on electrical connections

- c. Determine if improvements to the motor installation procedure are necessary and need to include installation of an aluminum safety enclosure.



Installed aluminum safety enclosure

4. Additional Guidance.

The above changes will obscure the electrical motor connections from view. This will require written instruction for safe and periodic removal of the aluminum enclosure and terminal boots to inspect for positive and tight electrical connections.

5. References.

NFPA 407 (2017) 6.1.6.3 states “Spark plugs and other exposed terminal connections shall be insulated to prevent sparking in the event of contact with conductive materials.”

A handwritten signature in blue ink, appearing to read "Brian Rushforth", written over a solid black horizontal line.

Brian Rushforth, Manager
Airport Safety and Operations Division, AAS-300