



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

# ODI RESUME

**Investigation:** PE 13-038  
**Date Opened:** 11/15/2013  
**Investigator:** Kyle Bowker **Reviewer:** Bruce York-B  
**Approver:** Frank Borris  
**Subject:** CNG Fuel Container Securement

## MANUFACTURER & PRODUCT INFORMATION

**Manufacturer:** A-1 AUTO ELECTRIC, BAF Technologies, Inc., Ford Motor Company  
**Products:** 2012 Ford F-550 with CNG Fuel System Conversion  
**Population:** 1,000 (Estimated)  
**Problem Description:** Alleged mounting bracket fracture resulting in an unsecured CNG fuel container.

## FAILURE REPORT SUMMARY

	ODI	Manufacturer	Total
<b>Complaints:</b>	1	TBD	TBD
<b>Crashes/Fires:</b>	0	TBD	TBD
<b>Injury Incidents:</b>	0	TBD	TBD
<b>Number of Injuries:</b>	0	TBD	TBD
<b>Fatality Incidents:</b>	0	TBD	TBD
<b>Number of Fatalities:</b>	0	TBD	TBD

## ACTION / SUMMARY INFORMATION

**Action:** A Preliminary Evaluation has been opened.

### Summary:

On August 7, 2013, the Office of Defects Investigation (ODI) received a complaint (ODI# 10534095) from a fleet representative indicating a concern with the compressed natural gas (CNG) fuel container mounting brackets on a 2012 Ford F-550 based 30-passenger transit bus equipped with a CNG fuel system conversion developed by BAF Technologies, Inc. (BAF), a subsidiary of Westport Innovations Inc. (Westport). According to the complainant, the subject vehicle was purchased new from A-Z Bus Sales, Inc. with the CNG fuel system already installed. According to BAF, they supplied only the low-pressure / engine compartment portion of the CNG fuel system conversion to the installer, A-1 Auto Electric / A-1 Alternative Fuel Systems (A-1), and it was A-1 who reportedly developed and installed the high-pressure portion of the CNG fuel system conversion including the CNG fuel containers and mounting brackets.

The subject complaint alleged that a mounting bracket that normally secures the right side CNG fuel container to the outboard side of the frame rail fractured at the weld area, allowing the fuel container to drop to the pavement. The driver reportedly observed sparks in both side view mirrors as the fuel container was being dragged along the pavement underneath the vehicle. As the driver attempted to pull the vehicle over to the shoulder of the roadway, the fuel container reportedly slid over to the left side of the vehicle and became wedged in front of the left rear tires, bringing the vehicle to an abrupt stop with the rear of the vehicle still partially blocking the right hand lane of a 2 lane highway. According to the complainant, the subject fuel container only remained attached to the vehicle via the two flexible fuel hoses. At the time of this incident, the subject bus had 64,632 miles on the odometer and approximately one year in service.

The complainant represents a fleet that operates over 100 buses, 60 of which are equipped with CNG fuel systems. Of these, six buses were equipped with CNG fuel systems developed and installed by BAF / A-1. Four of the six buses with the BAF / A-1 fuel systems were subsequently modified by another company with additional CNG fuel containers

for longer range operation and revised mounting brackets. The subject incident vehicle is one of the two buses that retained the original A-1 installed fuel container brackets. Upon further inspection, the complainant reportedly observed partial mounting bracket fracture on the second bus that retained the original A-1 installed fuel container brackets.

A Preliminary Evaluation has been opened to further assess the risk associated with the alleged safety defect.