

Rapid Lesson Sharing

Event Name: Engine 6 Battery-Caused Fire

Date: July 1, 2012

Location: Enroute to Cemetery Road



1. What Happened?

At approximately 0600 hours, a Type 6 brush engine was driving to Cemetery Road for a daily AAR. The engine operator pulled to the side to allow several crew transport vehicles to pass. As he returned to the road, several crewmembers were waving and yelling: *"Stop! You're on fire!"*

The engine operator turned to see flames coming from the back of the engine. He pulled over and started to throw things off the engine, including: cots, ice chest, and gas can. But the fire wouldn't stop until a responsive firefighter—Jarad

Nebeker, Southern Idaho Type 21A crewmember—from the crew transport vehicle responded with a 10-pound chemical fire extinguisher—and put out the fire.

One of the engine's crewmembers also started the pump in an attempt to put the fire out using tank water.

Upon arrival, Safety Officer Mervin Lent noted fire scars on the engine bed, water tank, and gas can. He asked the engine operator to replace all the equipment back onto the engine—in their original positions prior to the fire. (See Figure 1.)

The operator noted that the battery cover was off and had a broken clip, intended to hold the cover in place. The Safety Officer noted fire damage on the sleeping cot cloth and frame as well as electrical arch damage to the gas can.

It was determined that while driving down the dirt road, the cover had bounced off the battery. The cot (see Figure 2) then made repeated contact with the battery terminal and the gasoline can. This created two small openings in the gas can (see Figure 3)—allowing fumes and liquid gas to escape from the tank and ignite from the arching.



Figure 1 – Gas can and cot in back of engine.



Figure 2 – Damage to folded cot.



Figure 3 – Double pinhole damage from arching.

2. Lessons

Because this was a common build-up of compartment and bed storage on a Type 6 engine, it was decided that we needed to do a Lesson's Learned analysis regarding this incident to prevent any future incidents.

Of question here is the use of a U.S. Department of Transportation (DOT) safety can (Figure 4) to carry fuel that is different than the federal fire fuel cans (Figure 5). There is a possibility that, using the federal fire fuel safety can, it might have taken longer to burn the two holes into the can from the arching (Figure 3).

In addition, the location for storing fuel cans and fusees should be as far away from the battery area as possible. (While fusees were not involved in this incident, they should be considered.)

The battery cover should also be inspected on a regular basis. If the straps are worn or damaged, they should be replaced.

Special consideration should be given concerning where to store other equipment—such as cots. If possible, reengineer to support better storage and still be functional.

We need to emphasize education regarding fuel fires to ensure that if extinguishing action is taken, it should be done with the best extinguishing agents available.

The consequences of the extinguishing agent should also be considered. While the use of water on a fuel fire is not the best action, if it is the only action available, it may be used. In this incident, there was an extinguishing agent located on the side of the vehicle that could have been used as well as tank water.



Figure 4 – U.S. DOT safety can.



Figure 5 – Federal safety can.