

**RE: LNK FSDO Balloon Event FW: balloon pics**

Crookshanks Clinton

**Sent:** Tuesday, September 20, 2016 4:41 PM**To:** Bowling David**Cc:** Crookshanks Clinton

David,

The photos show arcing damage to one of the carabiners and burned holes in at least two envelope panels. There is no evidence of damage to the load tapes around the burned holes. The panel damage can be excluded from consideration under our current guidance since it is limited to less than 10% of the fabric panels below the equator. There are at least 4 areas of arcing damage to the carabiner. One of the damage areas shows a significant arc that changed the base metal color and deposited molten metal on the carabiner. One other area shows a moderate arc with a small area of discoloration and a small spot of molten metal deposited on the carabiner. The other two areas show only a discoloration. The carabiners would be considered a primary structural element since they transmit all of the lifting forces to the basket. The arcing damage noted likely affected the material properties of the steel and affected the structural strength requiring replacement. Therefore, this should be considered substantial damage.

I looked at the Cameron Balloons Instructions for Continued Airworthiness and found the following info on the carabiners which confirms they are considered a primary structural element. Non-certified persons may replace the snaplinks (carabiners #B111) with snaplinks (carabiners) provided by Cameron Balloons U.S. as original equipment replacement parts. The owner-operator is required to enter the installation of the new carabiners in the balloon logbook. **SUBSTITUTION OF CARABINERS EXCEPT AS SPECIFIED IN THE TYPE DESIGN MAY BE DANGEROUS, IS ILLEGAL, AND IS PROHIBITED.**

Let me know if you need more info.

**Clint Crookshanks**

Aerospace Engineer (Structures)

National Transportation Safety Board

---

**From:** Bowling David**Sent:** Tuesday, September 20, 2016 1:59 PM**To:** Crookshanks Clinton**Subject:** FW: LNK FSDO Balloon Event FW: balloon pics

Is it substantial damage to call it a balloon accident?

Thanks,

David

---

**From:** [Rodney.A.Vigstol](#)**Sent:** Thursday, September 08, 2016 10:21 AM**To:** Bowling David

**Subject:** LNK FSDO Balloon Event FW: balloon pics

3 of 3 emails forwarding

Rod Vigstol  
Front Line Manager – Airworthiness

FAA Flight Standards – Lincoln FSDO CE09

[REDACTED]  
Lincoln Nebraska 68524

[REDACTED]

**From:** Love, Richard (FAA)  
**Sent:** Thursday, September 08, 2016 10:31 AM  
**To:** Vigstol, Rodney A (FAA)  
**Cc:** Olson, Scott M (FAA)  
**Subject:** balloon pics

[REDACTED]