

## Backbiter rivet issue



**Background:** We were notified of a backbiter rivet shearing, causing the keeper on the snap hook to detach from the unit. Note: The snap hook and gate were still intact. With the keeper becoming unattached, this resulted in the loss of dual-action functionality of the snap hook. The lanyard and snap hook were drop tested at our facility and passed all applicable ANSI testing. Rivet was analyzed and was to specification metallurgically.

**Corrective action:** A letter was published to our customers explaining the situation. We were not able to duplicate the failure in our test lab. From the analysis we performed, we concluded that the rivet pin, if repeatedly struck, drug across rough surfaces, and abused, could possibly cause the rivet pin to shear. (We had no test data to prove, but we did have two instances in the field). We instructed our customers to carefully inspect the rivet heads for signs of wear prior to use.

**Preventative action:** Immediately, we switched to a different design which shielded the rivet pin from damage, Note the countersunk rivet head. This countersunk design protects the pin from accidental blows and wear over time.



**OLD STYLE**



**NEW STYLE**



Date: November 10, 2008

To: Valued Spierian Protection Customers

Subject: Miller BackBiter Shock-Absorbing Lanyard Model No. 8798B

---

The Miller® BackBiter™ shock-absorbing lanyard was the first fall protection lanyard that has been designed specifically for tieback applications. Introduced in 1999, the BackBiter lanyard was designed with heavy-duty 12,000 pound lanyard webbing and a patented 5K (5,000 pound) rated snap hook. The 12,000 pound lanyard webbing and the 5K snap hook were designed into the product to address issues related to excessive lanyard wear and the potential hazards associated with the standard snap hooks and their ability to fail when subjected to impact forces when used in a tieback application. Thus, the Miller BackBiter shock absorbing lanyard was designed to double as a shock-absorbing lanyard and an anchorage connector for tieback applications.

Recently, there have been several emails sent to contractors:

1. Stating that there is a “problem” with the Miller BackBiter and/or
2. Showing photos of the snap hook with the pin for the lock-lever removed.

The original sender issued a safety alert regarding the functionality of the BackBiter snap hook. We would like to address this issue with the following information:

- A Spierian Protection sales representative was informed of the issue on October 4th and alerted our Quality Assurance department immediately.
- Spierian Fall Protection requested additional information and for the product to be sent back to the factory in Franklin, Pennsylvania for an Engineering inspection and evaluation. The purpose of an Engineering inspection is to identify the root cause of any product problem.
- As a point of clarity, this lanyard was **NOT** involved in a fall.
- Upon receipt of the lanyard, it was determined that one of the rivets that holds the lock-lever to the snap hook body had sheared off, causing the lock-lever to become loose and eventually detach from the unit. Note, the lock-lever is a redundant safety feature on the snap hook that locks the snap hook gate closed to prevent unintentional disengagement.
- On October 20, 2008, Spierian Fall Protection contacted it’s supplier for the BackBiter snap hook to advise them of the situation. The snap hook components were sent out to two independent metallurgical laboratories for metallurgical evaluation and to performing a failure

mode analysis. The results of the evaluation showed that all metal properties and strength were within specifications.

- While awaiting the metallurgist results, we also conducted several abusive and destructive tests on the snap hook to see if the issue could be duplicated. The snap hook was loaded with forces up to 5,000 pounds in every direction and we were unable to duplicate the damage to the snap hook. We also conducted a series of dynamic drop test using the BackBiter lanyard with the snap hook lock-lever removed to see what would happen in the event of a fall if the lock-lever was missing from the snap hook. The results were positive. The fall was arrested and the BackBiter 5,000 pound snap hook remained secure to the anchorage. We are confident that if this were to be a real scenario the users' fall would have been arrested.
- So far we have identified two snap hooks with this issue. This is an extremely low number when compared to the high level of sales of this product. We continue to investigate this issue and expect that we will not see this repeat in the future.
- Additionally, we've completely inspected our inventory of BackBiter snap hooks and found none with loose or defective rivets.

Sperian Fall Protection treats these issues seriously. Our Quality Assurance process takes measures to prevent a product from shipping to the field with a defective condition. We continue to look at all possibilities and strongly believe that these two incidents are isolated and unique situations. We are confident that the Miller BackBiter shock-absorbing lanyard, when used properly, is one of the safest products on the market today. As with any safety equipment, a daily inspection by the user and a periodic inspection by a company-appointed competent person should be done according to the manufacturer's instructions to ensure that the product is in good usable condition.

Should there be any questions regarding the proper use, inspection, care and maintenance of your Miller fall protection equipment, please feel free to contact our Technical Service Department at 1-800-873-5242.

