



10/13/08

Review of S-100-28 spreader (s/n F02297)

It was brought to our attention that an S-100-28 spreader failed. Upon initial inspection, it was found that the body had split. It was also noted that the male coupler on the tool was a non bleeder coupler, manufactured by Aeroquip. All TNT tools and extension hoses are factory equipped with male bleeder couplers, manufactured by Parker Hannifin Corporation. For easy identification the male bleeder couplers are finished with black oxide.

TNT Rescue Systems, Inc. tools, incorporate two safety features:

1. A relief valve built into the tool rotor under the twist valve handle
2. The male bleeder coupler

Both items are in place on the return circuit of the system. They are in place to prevent over pressurization of the tool. The relief valve had opened in the handle. The safety system above is designed to work in conjunction with one another. The external change of the coupler, exceeded the capacity of the relief valve.

TNT Rescue Systems, Inc. also received photos of the tool installation. After inspecting the spreader, we reviewed the submitted photos. The hose on the hose reels does not appear to be TNT Rescue Systems, Inc. supplied hose. From the photo, one set of drop lines (the communication hose between the pump and reel) had a male bleeder coupler installed, as indicated by the black color. The other set of drop lines does not have the bleeder coupler installed.

Our representative was instructed to remove the non bleeder on the drop line and install a TNT supplied male bleeder. They also verified the existence of TNT issued male bleeders on the remaining tools and extension hoses, and changed any that were not.

In conclusion:

The cylinder failure was caused by an over pressurization of the return side of the tool. The over pressurization likely occurred as a result of an incomplete connection and lack of a bleeder coupler in the return circuit. This prevented the return side of the tool the ability to adequately relieve itself. As the spreader arms ceased movement, with no release of the control valve, the system was able to build in excess of twice the operating pressure on the return side, causing the cylinder to split.

Blanton
Engineering, ISO 9001, & NFPA Compliance
tntrescue.com