Bio:

**Kelly Byrne** is a 27 year veteran of the fire service. He works for the Washington DC Fire Department and is assigned to Rescue Squad 2 as a driver. The primary mission of the Rescue companies in Washington DC is the search and rescue of trapped civilians and firefighters at building fires. They are also responsible for HazMat response, trench and building collapse, confined space rescue, vehicle extrication, water and ice response, high angle rescue, and Heavy Wrecker operation in the Nation’s Capital.

Kelly is the owner of Rescue 2 Training and lives in West Virginia with his wife Kelly and daughters Corrina and Jillian.

Abstract:

There are several variations of the basic bowline that have seen growing popularity over the past several years, despite the fact that there has been no published data regarding the strength of these widely used knots. This paper will look at the results of slow pull testing of several variations of correctly tied and purposely incorrectly tied variations of the bowline.