

Developments at Proof Engineering

Over the past year, we have had the opportunity to work on several new and exciting projects. Here are just a few snippets of cutting edge technologies that we have contributed to.

Aircraft Need for In-Place Titanium Weld Treatment

In early 2014 Proof Engineering was awarded a Phase I Small Business Innovation Research (SBIR) contract to develop an effective method for relieving residual weld stresses resulting from in-situ repair of titanium aircraft components. The team researched the feasibility of vibratory stress treatment through extensive experimentation and finite element analysis. Concurrently, results from these studies were used to create a conceptual stress relieving system. Overall, initial testing showed promise and we look forward to potentially developing the technology in Phase II.



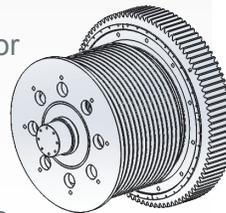
Reprocessing Medical Devices Reduces Costs and Benefits the Environment

A cost effective and environmentally friendly practice of reusing medical devices initially designed for single or limited use is becoming more common in the medical industry. Proof Engineering has recently established a relationship with a major medical device manufacturer. Our first project consisted of test and analytical studies to redesign and optimize an ultrasonic surgical tool. Improvements over the initial design made the components more ergonomic and increased the device's overall performance. Based on the success of this effort, we look forward to future projects in the field.



Winches Help Dredging Barges to Dig Deeper

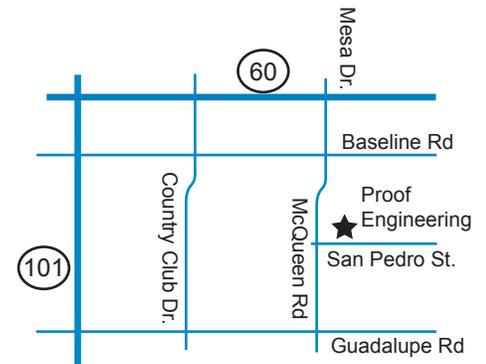
Dredging waterways used by large cargo vessels is vital for maintenance of transportation infrastructure. Over time, the floor of the channels can become overfilled with sediment, leaving the vessels vulnerable to running aground. Dredging also allows ports to accommodate larger vessels. In mid 2014 Proof Engineering helped a global manufacturer to design several large winches used to control lifting booms and buckets. The size of the winches was considerable, with the largest having a footprint in excess of being 12x10ft and operational loads up to 400 tons. Consequently, FE analyses were performed to optimize the structure for loads and durability in a demanding marine environment. CAD modeling was performed using Autodesk Inventor, a software package that we recently have begun using in addition to Solidworks.



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What we do

We are engineering problem solvers who can help you to:

- Develop or improve products
- Reduce manufacturing costs
- Resolve technical issues
- Investigate and correct failures
- Design test and validation programs
- Comply with safety regulations
- Enhance FEA and CAD capabilities

Our Specialties

- Custom machine design
- Solar tracking systems
- Turnkey industrial equipment
- Specialty vehicles
- Advanced FEA

“ We've been working with the principals of Proof since our company was started. The Proof team performs so well that we have incorporated their mechanical engineering expertise into our own value proposition. ”

ViaSol Energy Solutions, CEO