HYDROSTATIC WIRE CUTTER

Joshua Eaton

Woods Hole Oceanographic Institution
Purpose
Losing wire

- The Cost of Surface Cutting
- Dangerous
- Risk Exceeding Yield Point
Design Requirement
What it Needs to Do

- Safe on Deck
- Only Actuates at Depth
- Consistent
- Reliable
- Reach Depth
Method Of Operation
Assembly

Geometrically Simple

Preassemble
Pin Selection

- Depth
- Error
- Easy to Modify
- Repeatable
- 3/8 Free Machine Brass
Concept
Testing
Pressure Chamber

¼ Inch Nilspin, 5300 PSI

¾ Inch Spectra, 1500 PSI
Results
The Damage it Does

- Cuts Cables
  - ¼ Nilspin
  - 0.322
  - 9/16 3 X 19
  - 0.681
- Cuts and Damages Synthetics
- Blade Embeds in Backplane\Counter Weight
It Looks Like It Might Get Stuck
A Real Use

Coring Cruise

R/V Atlantis
Questions