RVTEC 2018

NSF West Coast Winch Pool
operated by
Scripps Institution of Oceanography
Winch Pool Mission

• To provide an inventory of oceanographic winches (etc.) for shared use.

• To keep the inventory in good repair, in compliance with applicable standards (CFR, RVSS).

• To modify the composition of the inventory to reflect the needs of end-users.

• To provide technical support: maintenance, repairs, design, engineering, fabrication, Q&A.
How the Winch Pool Works

• Science parties communicate their needs to us.

• We match their needs to available machinery.

• Those conducting NSF-funded research generally incur no costs (freight included) to use machinery.

• Others *generally* pay a “day rate” and the cost of freight.
Personnel

• Management and Quality Control
  – Pool Manager: Capt. Eric Buck (part time, 20 %)
  – Winch/Wire Engineer: A. Davis, PE (full time)

• Mechanical
  – WP Technician: Lorenzo McCoy (as required)
    • Attends vessels for mob/de-mob of Dynacon deep sea traction winch
    • Occasional travel supporting other winches
    • Spooling services
• Logistics—shipping, etc.
  – Estimated annually, included in our annual NSF proposal

• Engineering Services—design, analysis, etc.
  – NSF-funded projects included in our annual NSF proposal
  – Others pay an hourly rate

• Major Repairs, Capital Equipment Purchases—big ticket items
  – Requested in separate NSF proposals

• Routine Maintenance
  – Covered by the day rate for each winch (non-NSF funds)
Funding

• Spooling Services
  – Projects can be time consuming, expensive. Without sufficient notice can’t generally absorb their cost:
    – 1 cable off @ our facility → a 2-day project, $3k
    – 4 cables off & on @ OSU (Newport, OR) → 5 days, $20k
    – 1 cable off & on @ UH → 2 days, $24k
  – Projects for NSF-funded vessels can be included in our annual proposal (i.e. operators can incur no charge for spooling if we’re given sufficient advance notice).
Inventory

- 3 light-duty winches
- 4 mooring spoolers
- 1 spooling winch
- 1 mooring capstan
- 1 heavy-duty traction winch
- 1 tensioning/spooling machine
- 3 line tensioners
- 3 sets fiber optic slip rings
Light-Duty Winches

SeaMac, Poseidon
Up to 2,600 lbs pull.
Holds 3,000 m of .322” cable.
Light-Duty Winches

Hawboldt

SPR-2036/S

Up to 3,500 lbs pull.
Holds 3,000 m of .322 cable.
Mooring Spoolers

TSE SD-70 / SDP-70 Mooring Spoolers (not winches)

Up to 7,500 lbs pull. Holds 2,500 m of 1” cable.
Mooring Spoolers

**Dynacon 843 Winch**

Up to 7,500 lbs pull.  
Holds 5,300 m of 1” cable.

(Remote operating station, HPU not shown)
Mooring Spoolers

Dynacon Mooring Spooler
Mooring Capstan

Lebus Mooring Capstan

Also for spooling moorings.
Up to 7,000 lbs pull. Unlimited cable-holding capacity.
(Remote operating station, wireless remote not shown)
Heavy-Duty Winch

Dynacon Traction Winch

Up to 25,000 lbs pull.
Holds 10,000 m of .681 cable.

(Remote operating station not shown.)
Tensioning/Spooling Machine

Markey Tensioning Spooler

Ø.250 “ to Ø.681”
cable /wire rope/line
Spools up to 66” wide,
Ø90”, and 25,000 lb.
Line Tensioners

Blue

¼"
.322"

Pengo

9/16"
.680"
.681"
.842"

Gearhart

¼"
.322"
Projects 2017-2018

- UNOLS RVSS Appendix B (review/feedback).
- Analysis of TSE drum crushing strength.
- Analysis of R/V T.G. Thompson deck w/Dynacon 664 winch.
- Analysis of R/V R. Revelle deck w/Geotraces
- Lots of spooling.
Projects 2017-2018

Spooling: USCGC Healy
Projects 2017-2018

Spooling: R/V Sikuliaq
Projects 2017-2018

Spooling: R/V Oceanus
Projects 2017-2018

Spooling: R/V Roger Revelle
Projects 2018-2019

• Mooring winch.
• Another light-duty winch (retire old ones).
• Mooring blocks.
• Light net-towing block for R/V Sally Ride.
• Recovery hooks.
• Lots of spooling.
Contact Us

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#NSF winch pool