


Sharing Winch Assets

David Fisichella (WHOI)





SHARED-USE WINCHES TO SERVE THE U.S. RESEARCH FLEET

WHAT WORKS AND WHAT
DOESN'T





Sound Ocean Systems, Inc. 17455 NE 67 th Court, Suite #120 Redmond, WA 98052 USA Tel: 425-869-1834 Fax: 425-869-5554	Document	S140005-447-MCD-01		
	Title	Maximum Capability Document		
	Revision	2.0	Date	11 MAR 2015
	Author	DLB	Sheet	3 of 6

3. Winch Characteristics

Empty Weight:	16,000 lbs (7,258 kg)
Capacity*:	3,328 m (10,919 ft)
Maximum Weight:	17,500 lbs (7,938 kg)
Design Line Tension:	70,000 lbs (31,751 kg)
Safe Working Tension:	25,000 lbs (11,340 kg)
Bare Drum Line Pull:	25,000 lbs (11,340 kg)
Bare Drum Line Speed:	10.5 m/min (34.5 ft/min)
Full Drum Line Pull:	25,000 lbs (11,340 kg)
Full Drum Line Speed:	41.6 m/min (136.3 ft/min)
Power Requirements:	400-480 VAC, 50-60 Hz, 3 ph, 200 Amp
Ambient Temperature Range:	-20° to +45° C (-4° to 113° F)

* Capacity is based on ¾" synthetic line with a double spaced cable lay, with 2 in. of radial clearance between the top layer and the OD of the drum flange.

4. Free Body Diagram

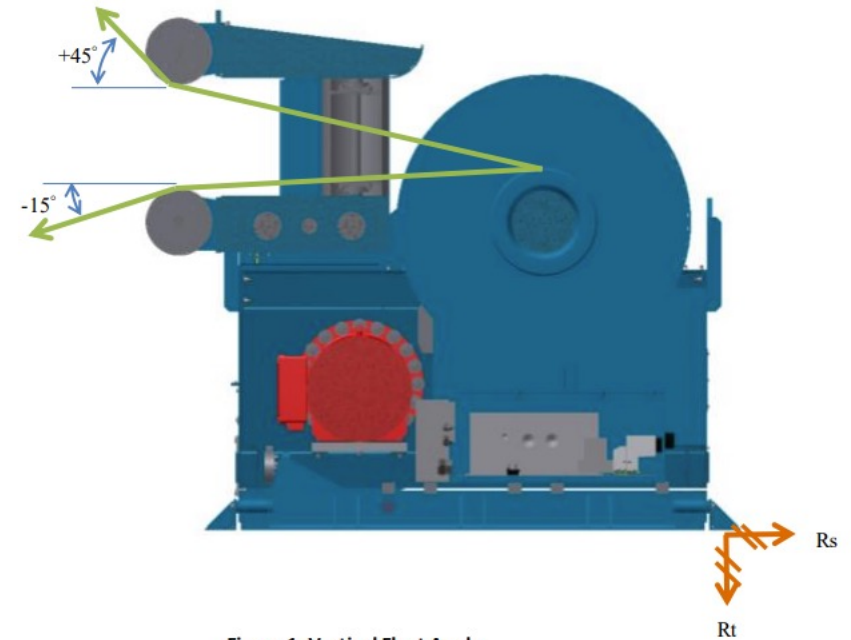


Figure 1: Vertical Fleet Angle

At DLT
 Rt = 12,500 lbs (5,682 kg)
 Rs = 6,000 lbs (2,727 kg)

At SWL
 Rt = 4,465 lbs (2,030 kg)
 Rs = 2,143 lbs (974 kg)

Forces are the maximum forces per bolt for the highest loaded bolt in the pattern, as shown in Figure 3. Analysis is valid for DLT with a 30 bolt hold down pattern, a vertical fleet angle of +45°/-15°, and a

Request Form

Requestor*:
first last

PI*:
first last

Institution Name:

Email Address*:

Telephone Number(s)*:

Agency: NSF or other agency:

Ship:

Cruise:

Mobilization date (mm/dd/yyyy):

Mobilization port:

Demobilization date (mm/dd/yyyy):

Demobilization port:

Weight of gear (lbs):

Expected tension (lbs):

Wire used:

Wire length (m):

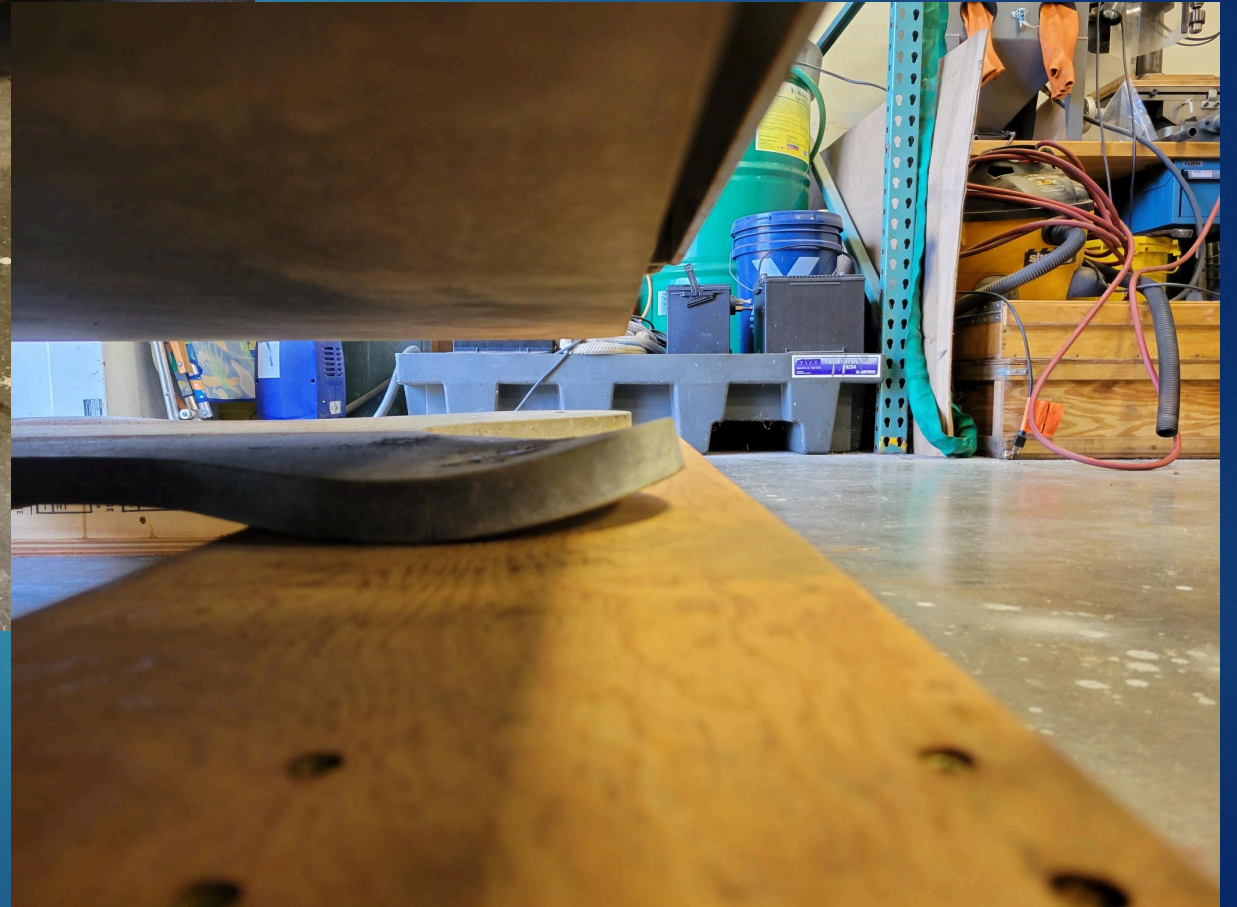
Use description:

Comments:



Is the winch pool
concept a perfect
solution?







Thank You