



# OHS Operator's Manual for R/V Sally Ride CTD-11V OHS

Revision 12/21/2022

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By

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This document has been prepared to satisfy the requirements set forth in Appendix B of the UNOLS Research Vessel Safety Standard (RVSS) 11<sup>th</sup> Edition.

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## Purpose

This document contains all items required by UNOLS RVSS Appendix B, 11<sup>th</sup> edition section B.5.3: "OHS OPERATOR'S MANUALS".

## Contents

Section 0: Operational summary and capabilities.<sup>1</sup>

Section 1: A detailed description of the OHS layout.

Section 2: OHS test procedures.

Section 3: Procedural safety requirements.

Section 4: Operator training procedures.

Section 5: Reference to individual component manuals or data sheets.

Section 6: Routine maintenance procedures.

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<sup>1</sup> The material in section 0 is not required by UNOLS RVSS, 11<sup>th</sup> edition.

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## Section 0:

### Operational Summary and Capability

The CTD-11V OHS onboard R/V Sally Ride is designed for towing and station-keeping operations.

The tension member used with this OHS:

Tension Member	Lowest FS	Safe Working Tension (SWT)	Nominal Breaking Load (NBL)	Typical Test Breaking Load (TBL)
.322" dia. cable	2.0	5,000 lbf	10,000 lbf	12,500 lbf

The capabilities of the OHS components:

Component	Design Line Tension (DLT)		Safe Working Tension (SWT)	
	Towing	Station Keeping	Towing	Station Keeping
Markey CAST-6-125 Winch <sup>2</sup>	12,000 lbf	12,000 lbf	12,000 lbf	12,000 lbf
Smith Berger Model 222 Guide Sheave <sup>3</sup>	16,000 lbf	16,000 lbf	16,000 lbf	16,000 lbf
Allied CTD-11V handling apparatus <sup>4,5</sup>	16,000 lbf (in a 30° cone)	16,000 lbf (in a 30° cone)	11,100 lbf (in a 30° cone)	11,100 lbf (in a 30° cone)

The overall capabilities of this OHS:

Safe Working Tension (SWT)	
Towing	Station Keeping
5,000 lbf	5,000 lbf

<sup>2</sup> See page 72 of reference 5b.

<sup>3</sup> See page 16 of reference 5d.

<sup>4</sup> See page 1-4 of reference 5a.

<sup>5</sup> See sheet 1 of reference 5e.

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## Section 1:

### A detailed description of the OHS layout

#### Contents

- 1a. The location of each major component.
- 1b. The overall dimensions of each major component.
- 1c. The weight of major portable components.
- 1d. The orientation of each major component in each OHS configuration.
- 1e. The geometry of the tension member in each OHS configuration.
- 1f. System particulars, i.e. operating order or considerations, not duplicating component manuals.

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1a. The location of each major component.

The R/V Sally Ride CTD-11V OHS is comprised of four components:

- A Markey CAST-6-125 winch.
- A .322" diameter cable, Part No. A301592, mfd. by The Rochester Corporation.
- A Smith Berger model 222 guide sheave.
- An Allied CTD-11V handling apparatus.

Their locations on the vessel are indicated below in figure 1, and on the net page in figure 2.

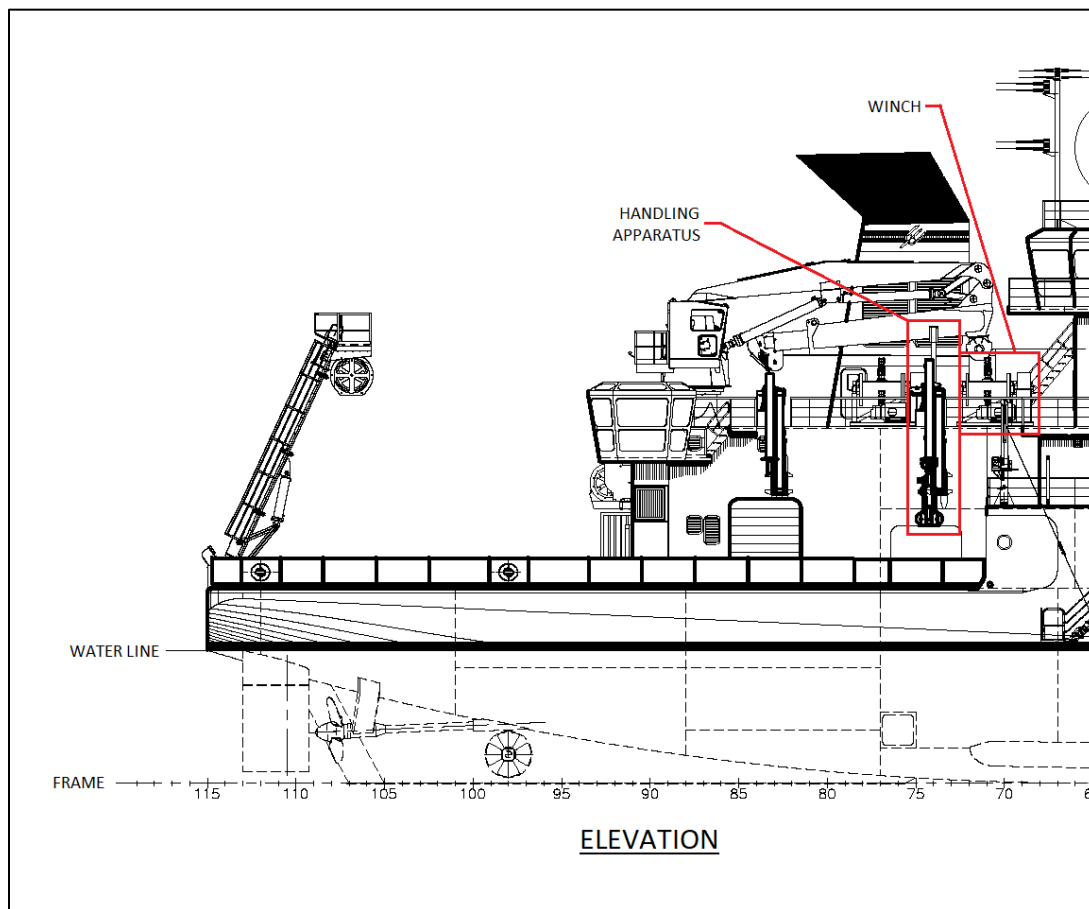


Figure 1: The locations of major components<sup>5</sup>.

<sup>5</sup> This image is a modification of the drawing GENERAL ARRANGEMENT PROFILE, DWG 65411-801-01 REV G, SHEET 1, made by the Guido Perla & Associates, Inc., 4/20/10.

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1a. The location of each major component (continued).

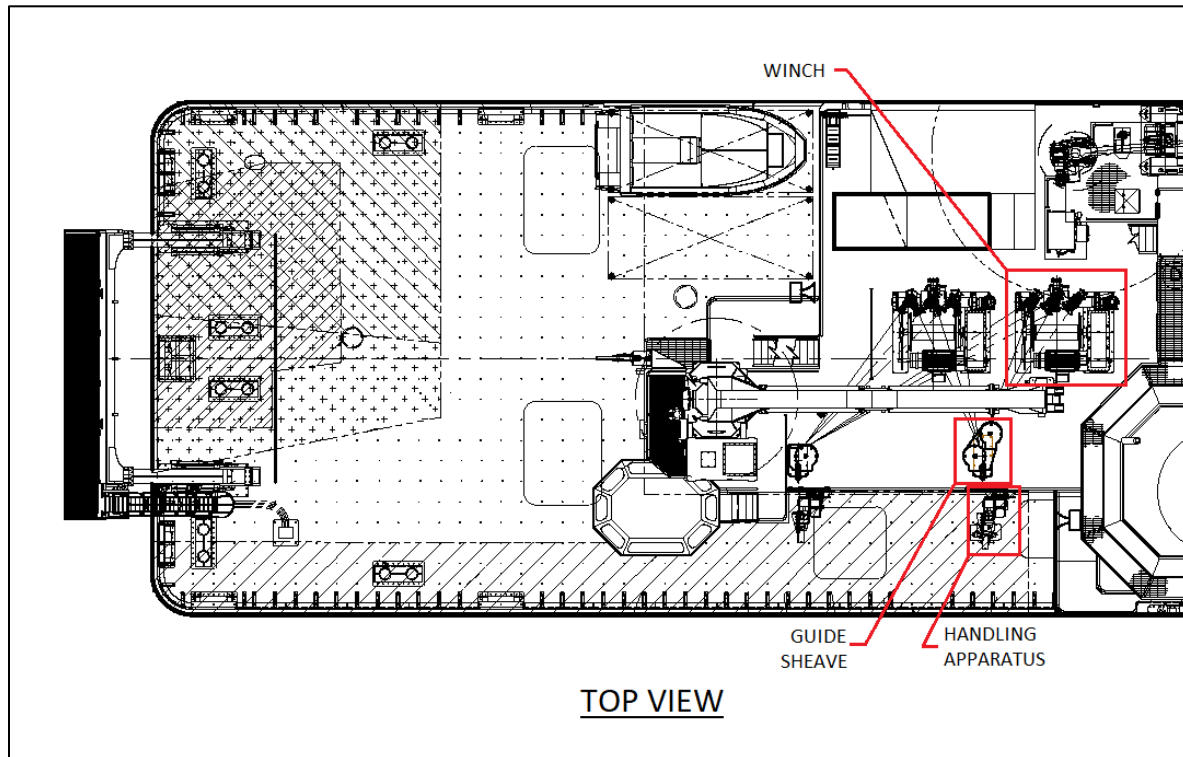


Figure 2: The locations of major components<sup>6</sup>.

<sup>6</sup> This image is a modification of the drawing TOPSIDE ARRANGEMENT, DWG 65411-801-05 REV C, SHEET 1, made by the Guido Perla & Associates, Inc., 11/01/10.

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1b. The overall dimensions of each major component.

The winch's overall dimensions are below in figure 3.

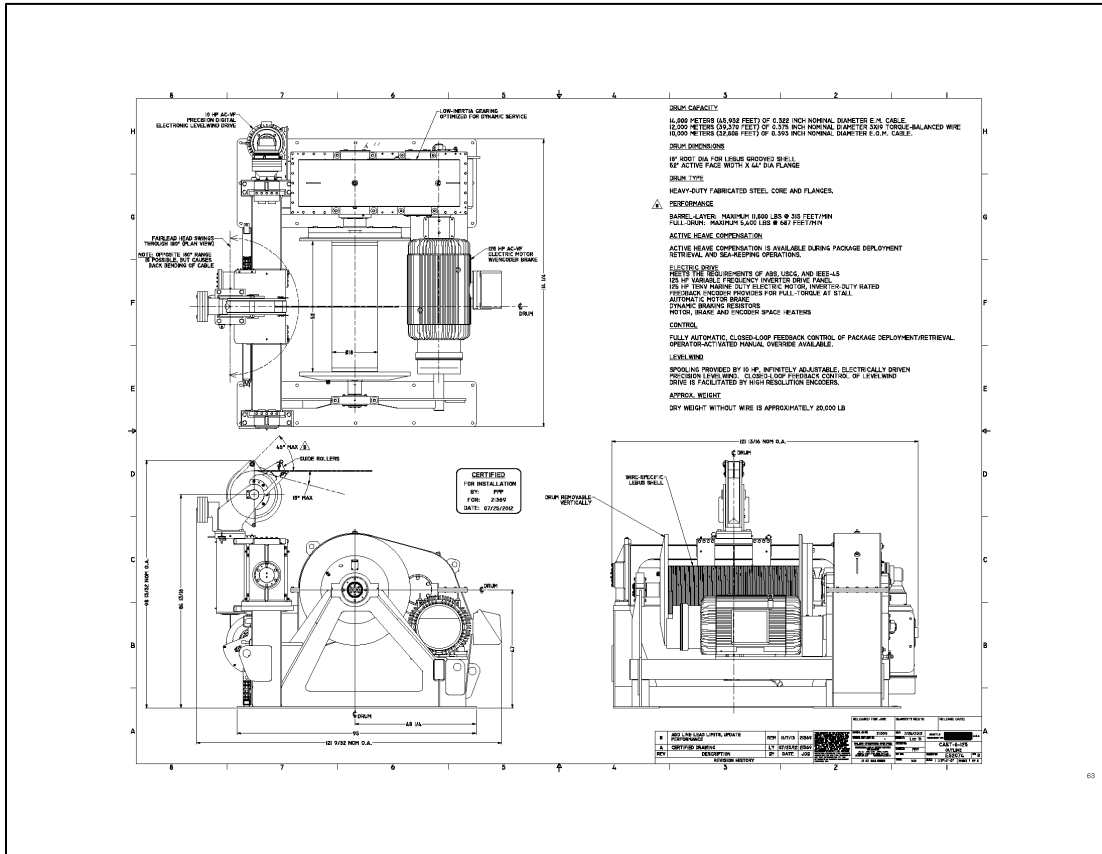


Figure 3: Overall dimensions for the Markey CAST-6-125 winch.

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1b. The overall dimensions of each major component (continued).

Overall dimensions for the guide sheave are below in figure 4.

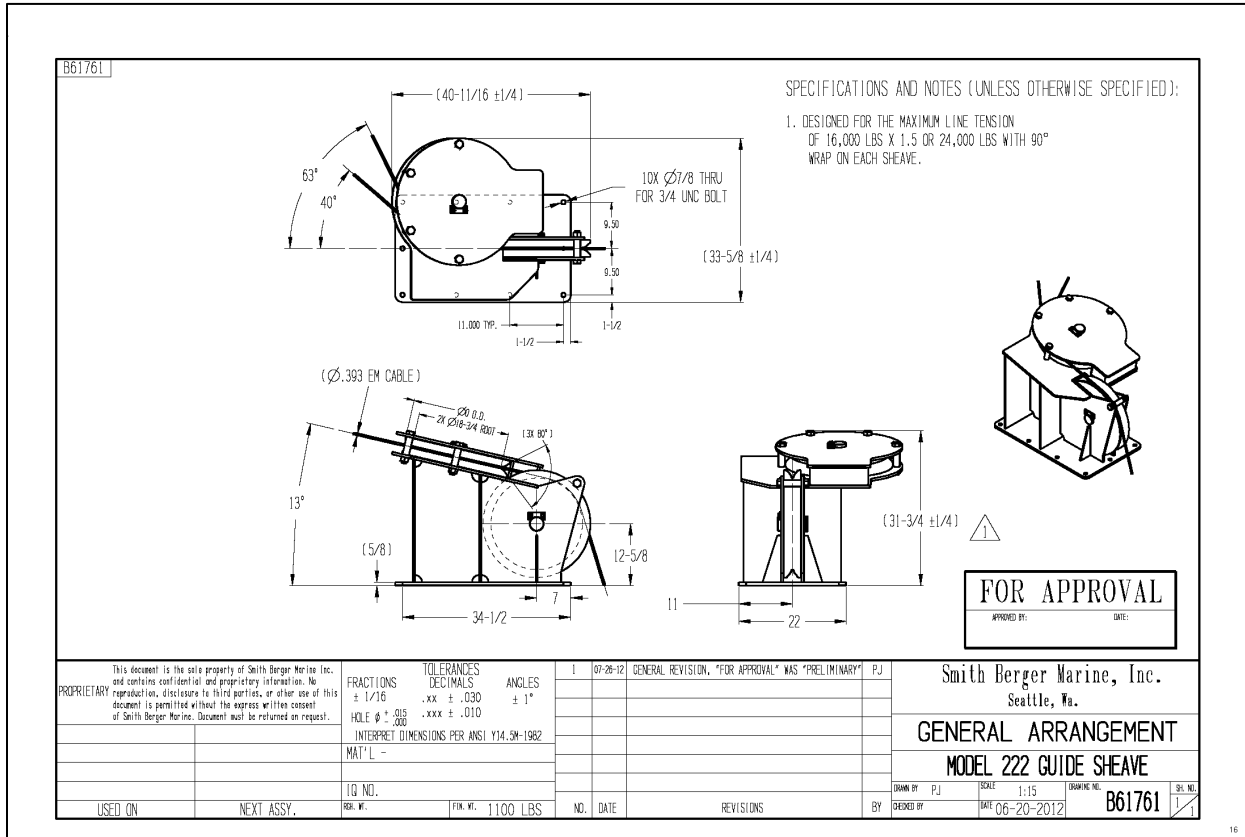


Figure 4: Overall dimensions for the guide sheave.





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1b. The overall dimensions of each major component (continued).

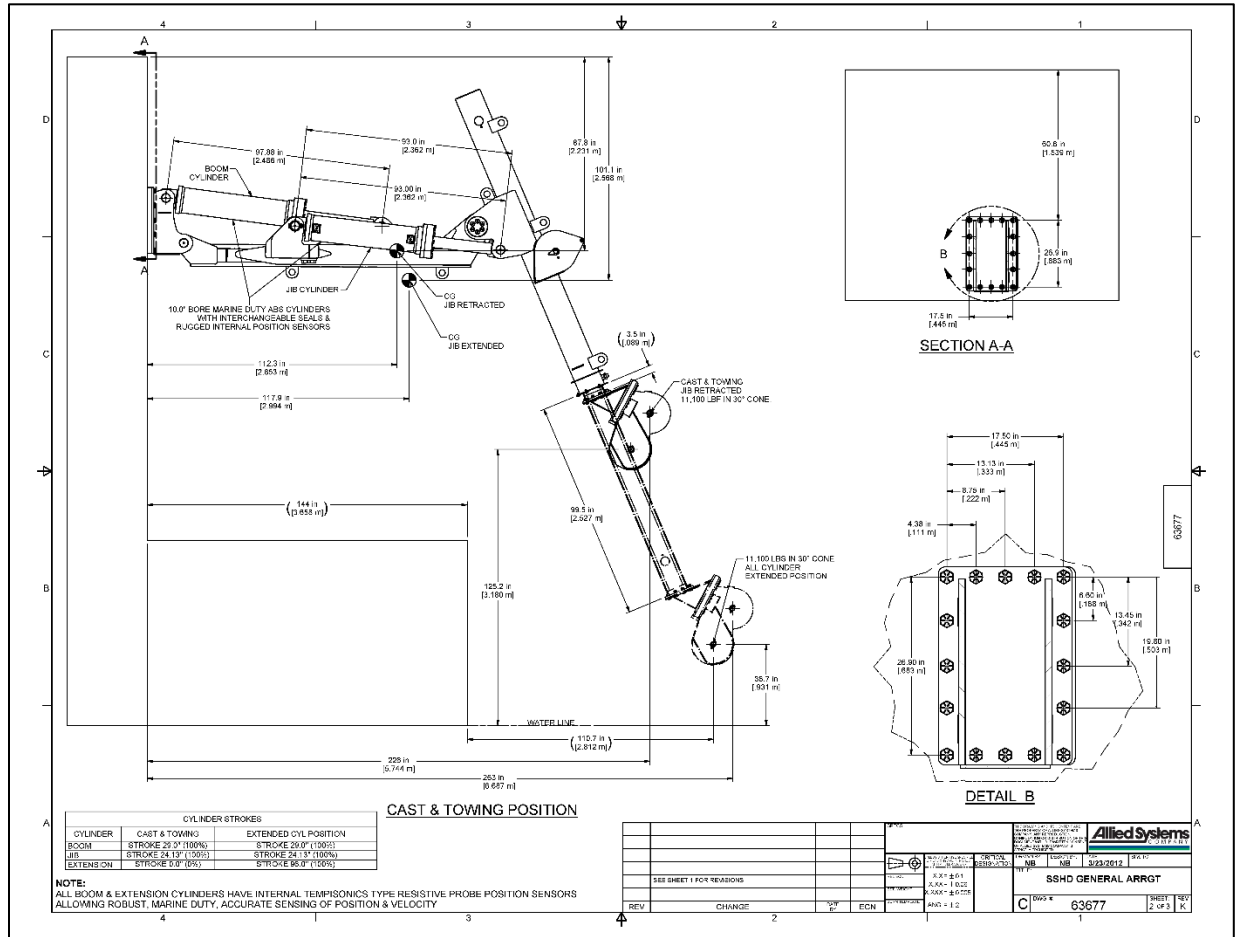


Figure 6: Overall dimensions for the handling apparatus in the deployed state.

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1c. The weight of major portable components.

This system contains no portable components.

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1d. The orientation of each major component in each OHS configuration.

Only the handling apparatus has multiple configurations. The system's remaining components are fixed. The orientations of the handling apparatus in its secured and deployed states are shown in figures 5 and 6.

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1e. The geometry of the tension member in each OHS configuration.

When the handling apparatus is in its deployed state, the system's tension member can depart the handling unit (enter the sea) at an angle that may vary from vertical by 30 degrees in the port, forward, and starboard directions, and by 45 degrees in the aft direction.

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1f. System particulars, i.e. operating order or considerations, not duplicating component manuals.

Operating order and considerations are covered adequately in procedural safety requirements and operator training materials. See sections 3, 4, and 5.

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## Section 2:

# OHS Test Procedures

### Contents

2a. *R/V Sally Ride Load Testing Procedure for the CTD-11V OHS.* SIO Nimitz Marine Facility, 9/10/21.

R/V Sally Ride  
Load Testing Procedure for the  
CTD-11V OHS

1. UNOLS RVSS Appendix B requires OHS be tested to 125% of their SWT every five years.
2. This procedure assumes the NBL of the system's .322" diameter cable is 10,000 lb., the safety factor used with the cable is 2.5, the cable's SWT is 4,000 lb., and the minimum required test load is 125% of the SWT, which is 5,000 lb.
3. In this procedure the test load is 10,000 lb., which is less than the safe working tension of the Allied CTD-11V (11,100 lb.) stbd. side handling unit, the Markey CAST-6-125 winch (12,000 lb.), and the Smith Berger 322 guide sheave (16,000 lb.).
4. Verify the Dynamometer that will be used is properly calibrated.
5. Verify the winch's tension meter is properly calibrated.
6. Disable the winch's RENDER/RECOVER function.
7. Remove the termination from the CTD cable if required to completely haul it in.
8. Haul in the CTD cable completely.
9. Reeve a length (about 110 ft.) of 3/8" diameter Samson Amsteel®-Blue line (minimum spliced breaking 17,600 lb.) through the OHS with a spliced eye on it's working end. This will be the test line.
10. Lash the test line to the bitter end of the CTD cable.
11. Haul in the test line until there are 10 or more wraps on the winch drum.
12. Attach the Dynamometer to the spliced eye on the test line.
13. Attach the water bag to the dynamometer.
14. Place the side handling unit in the cast and towing position. Pay out the line as required to keep the dynamometer well below the handling unit.
15. Ensure the jib is completely retracted and within the limits shown in Figure 1 (following page). Ensure it remains that way throughout the test.
16. Ensure the water bag is in the proper position for the test, i.e., clear of the side handling unit, the vessel, and not above anything that might be damaged if the OHS or bag should fail.
17. Slowly fill the water bag until the dynamometer indicates 10,000 lb. Check for agreement between the dynamometer and the winch's tension meter as the bag is filling.



18. Wait 5 or more minutes. Inspect the systems for signs of failure while you wait.
19. Release the water from the water bag.
20. Remove the test line from the system.
21. Put the winch's RENDER/RECOVER function in the same state it was in before this test was conducted.
22. Let the vessel master and the winch and wire engineer know when the test is complete so they can make note of it in the appropriate vessel logs, NS5, and in the UNOLS wire pool database.
23. Give the test line to the winch and wire engineer, who will inspect it, keep track of the number of tests it's used for, have it tested, and discard.

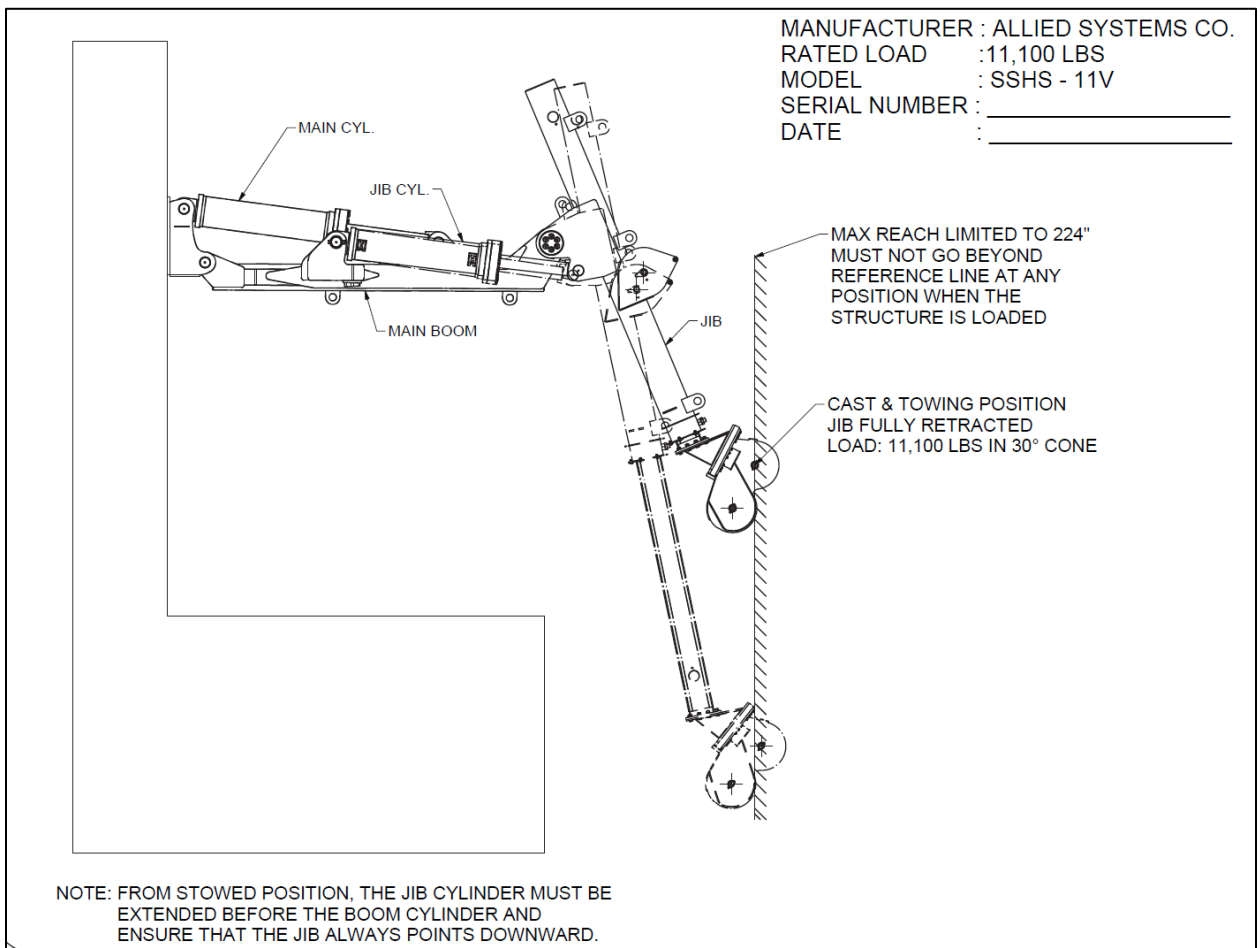
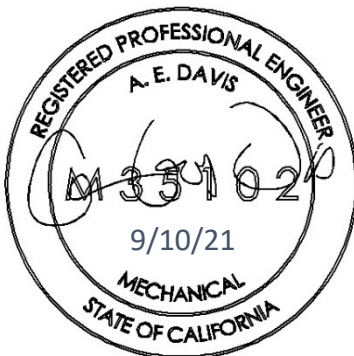


Figure 1: Limitations on the rated load of the CTD-11V (figure 4-2 in its technical manual). Note it's rated load of 11,100 lb. assumes the jib is fully retracted and no further than 224" from its base. Extending the jib or orienting it beyond these limits during this test may cause damage to the system.



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## Section 3:

### Procedural Safety Requirements

#### Contents

- 3a. Operational Risk Management Process. MARFAC safety management manual section 60.
- 3b. General Policy on Shipboard Scientific Operations. MARFAC safety management manual section 205.
- 3c. Over-the-Side Operations. MARFAC safety management manual section 210.
- 3d. CAST-6 Overboard Handling System Manual Operation. MARFAC safety management manual section 952.

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3a. Operational Risk Management Process. MARFAC safety management manual section 60.

Note: The MARFAC safety management manual is proprietary. This material has been removed from this example.

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3b. General Policy on Shipboard Scientific Operations. MARFAC safety management manual section 205.

Note: The MARFAC safety management manual is proprietary. This material has been removed from this example.

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3c. Over-the-Side Operations. MARFAC safety management manual section 210.

Note: The MARFAC safety management manual is proprietary. This material has been removed from this example.

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3d. CAST-6 Overboard Handling System Manual Operation. MARFAC safety management manual section 952.

Note: The MARFAC safety management manual is proprietary. This material has been removed from this example.

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## Section 4:

# Operator Training Procedures

### Contents

4a. R/V SALLY RIDE CTD/Hydro Winch (CAST-6) Operator Training Checklist & Record.pdf.  
MARFAC safety management manual section 950A1.

Note: The MARFAC safety management manual is proprietary. This material has been removed from this example.

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## Section 5:

### Reference to Individual Component Manuals and Data Sheets

5a. Allied Systems Company. TECHNICAL MANUAL STARBOARD SIDE HANDLING UNIT ALLIED MARINE CRANE FOR THE OCEAN CLASS AGOR S/N 22965 AND 2305. REV 2-2014.

5b. Markey Machinery Co., Inc. CAST-6-125 Dual Overboard Handling System with two CAST-6-125 Hydrographic Winches S/N21369-1 and 21369-2. Rev. 1-31-14.

5c. The Rochester Corporation. Datasheet for part no. A301592. Rev U, 11-20-2008.

5d. Markey Machinery Co., Inc. FLAG BLOCK – HORIZONTAL GUIDE SHEAVE WINCH MONITORING SYSTEM S/N 21367. Rev 2-27-14.

5e. Allied Systems Company. SSHHD GENERAL ARRGT. Drawing 63677 REV C.

Note: This section is only intended to be a list of applicable documents. These documents are not included in this manual. They can be had by contacting:

Aaron E. Davis, P.E.

*Winch and Wire Engineer*

*Scripps Institution of Oceanography*

*Ship Operations & Marine Technical Support*

297 Rosecrans St | San Diego, CA 92106-3505 | O: 858.246.0376 | M: 619.251.6368 |

[aed001@ucsd.edu](mailto:aed001@ucsd.edu)



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## Section 6:

### Routine Maintenance Procedures

#### Contents

- 6a. WINCH, MARKEY CAST-6, FWD 12 MTS TEST.
- 6b. WINCH, MARKEY CAST-6, FWD 1 MTS LUBRICATION.
- 6c. WINCH, MARKEY CAST-6, FWD 12 MTS LUBRICATION.
- 6d. SIDE HANDLING UNIT, FWD CTD, ALLIED 30 MTS TEST.
- 6e. SIDE HANDLING UNIT, FWD CTD, ALLIED MAINT. & INSPECTION 1-MO.
- 6f. SIDE HANDLING UNIT, FWD CTD, ALLIED MAINT. & INSPECTION 3-MO
- 6g. Lubrication procedure for Rochester A301592 CTD cable.

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6a. WINCH, MARKEY CAST-6, FWD 12 MTS TEST.

**Ship Name:** SALLY RIDE**System:** 500 AUXILIARY SYSTEMS**Machinery:** WINCH, MARKEY CAST-6, FWD**Average Operation Time:****Total Hours:**0**Specification Work Category:** TEST**JOB TITLE:** WINCH, MARKEY CAST-6, FWD 12 MTS TEST  
MTS TEST**Job No.:** 800000591**Subject Index Term:** Test, CAST6 Winch, Annual\*TEST**Interval:** 12 MONTHS**Priority:** A**Grace Allowed:** 0 Weeks**Current Run Hour Clock:** 0 Hrs**Maintenance Trigger:****Job Status:** Active**Last Date Done:** 10/17/2022**Tentative Due Date:****PREDECESSORS****JOB DESCRIPTION**

WINCH, MARKEY CAST-6, FWD 12 MTS TEST

Test, CAST6 Winch System, Annual

**INSTRUCTIONS:**

1. During operation of the CAST6 winch system an oil sample is taken on an annual basis and sent in for analysis.
2. Flush some oil through the drain valve to ensure representative sample.
3. Using the Catapillar oil sample kit collect an oil sample and then send in for oil sample analysis.
4. Results are to be kept in the Chief Engineer's filing cabinet along with the other oil sample analysis results.
5. With the winch system secured check the oil level and top up as necessary with Chevron Meropa 150 or equivalent.

Ref: Technical manual, Winch Lubrication, pg 7

**GENERAL NOTES:**

Any deficiencies should be reported and corrected as required. Refer to your Technical Manual for specific details.  
When reporting this job back to NS5, record any notes about the job under the Findings tab.

**VESSEL SPECIFIC DESCRIPTION****SKILLS****REQUIRED MATERIAL:**

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6b. WINCH, MARKEY CAST-6, FWD 1 MTS LUBRICATION.

**Ship Name:** SALLY RIDE**System:** 500 AUXILIARY SYSTEMS**Machinery:** WINCH, MARKEY CAST-6, FWD**Average Operation Time:****Total Hours:** 0**Specification Work Category:** LUBRICATION**JOB TITLE:** WINCH, MARKEY CAST-6, FWD 1 MTS LUBRICATION **JSI:** 2**Job No.:** 800000587**Subject Index Term:** LUBE, CAST6 WINCH (1-MO)\*LUBRICATION**Interval:** 1 MONTHS**Priority:** A**Grace Allowed:** 0 Weeks**Current Run Hour Clock:** 0 Hrs**Maintenance Trigger:****Job Status:** Active**Last Date Done:** 11/07/2022**Tentative Due Date:****PREDECESSORS****JOB DESCRIPTION**

WINCH, MARKEY CAST-6, FWD 1 MTS LUBRICATION

Lubrication, CAST6 Winch System, Monthly

**INSTRUCTIONS:**

1. Utilizing proper lockout/tagout procedures secure the winch system that is to be serviced.
2. Check the grease coating of the diamond screw and the sliding surfaces. Make sure old grease is not excessively dirty or hard. Remove old grease with a scraper if necessary and buff out any corrosion. Use Premalube Red when applying fresh grease. Apply three shots of grease to each zerk fitting that goes to sliding surfaces beneath levelwind carriage. There are a total of 14 zerks that will need to be greased with the Premalube Red.
3. Apply a couple shots of EP2 grease to each of the zerks for two sheaves that are mounted to the levelwind carriage (two zerks per sheave). Exercise each sheave to check condition of the sheave bearings. When rotating the lower sheave check condition of the magnetic ring that is used for the line counter pickup. Ensure the spacing between the ring and pickup is adequate and that the ring magnet surface is clean.
4. There are 5 zerks on the fairlead carriage that will need to be greased with 3 shots of EP2 grease per zerk. When greasing the upper sheave swing bearing be sure to exercise the bearing.
5. Apply three shots of grease to NDE drum bearing and the diamond screw NDE bearing (2 zerks).
6. Check the condition of the oil pump hoses and ensure the fittings are properly covered with densyl tape.
7. Remove any locks or tags and re-energize the system.
8. Run the winch in both the payout and payin directions if the system has been sitting idle.

Ref: Operation Manual, Winch Lubrication

**GENERAL NOTES:**

Any deficiencies should be reported and corrected as required. Refer to your Technical Manual for specific details. When reporting this job back to NS5, record any notes about the job under the Findings tab.

**VESSEL SPECIFIC DESCRIPTION****SKILLS****REQUIRED MATERIAL:**

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6c. WINCH, MARKEY CAST-6, FWD 12 MTS LUBRICATION.

Ship Name: SALLY RIDE

System: 500 AUXILIARY SYSTEMS

Machinery: WINCH, MARKEY CAST-6, FWD

Average Operation Time:

Total Hours:0

Specification Work Category: LUBRICATION

JOB TITLE: WINCH, MARKEY CAST-6, FWD 12 MTS LUBRICATION JSI: 1

Job No.: 800000585

Subject Index Term: LUBE, CAST6 COUPLING\*LUBRICATION

Interval: 12 MONTHS

Priority: B

Grace Allowed: 0 Weeks

Current Run Hour Clock: 0 Hrs

Maintenance Trigger:

Job Status: Active

Last Date Done: 07/01/2022

Tentative Due Date:

PREDECESSORS

JOB DESCRIPTION

WINCH, MARKEY CAST-6, FWD 12 MTS LUBRICATION

Lubrication, CAST6 Winch System, Annual

INSTRUCTIONS:

1. Utilizing proper lockout/tagout procedures secure the winch system that is to be serviced.
2. Remove sheet metal coupling guard.
3. Remove the two plugs installed opposite of eachother.
4. Install a zerk fitting in one the plug holes and pump in coupling grease until clean grease ejects from the hole on opposite side.
5. Remove zerk fitting and install the coupling guard. Run the motor for a few minutes to ensure any excess grease is ejected.
6. Completely reassemble being sure that plugs are installed back in the coupling and then remove any locks and/or tags.
7. Test run system to check for proper operation.

Ref: Operation Manual, Winch Lubrication

GENERAL NOTES:

Any deficiencies should be reported and corrected as required. Refer to your Technical Manual for specific details. When reporting this job back to NS5, record any notes about the job under the Findings tab.

VESSEL SPECIFIC DESCRIPTION

SKILLS

REQUIRED MATERIAL:

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6d. SIDE HANDLING UNIT, FWD CTD, ALLIED 30 MTS TEST.



**Ship Name:** SALLY RIDE

**System:** 500 AUXILIARY SYSTEMS

**Machinery:** SIDE HANDLING UNIT, FWD CTD, ALLIED

**Average Operation Time:** 0

**Total Hours:** 0

**Specification Work Category:** TEST

**JOB TITLE:** SIDE HANDLING UNIT, FWD CTD, JSI: 3  
ALLIED 30 MTS TEST

**Job No.:** 800000304

**Subject Index Term:** TEST, WEIGHT, SR\*TEST

**Interval:** 30 MONTHS

**Priority:** D

**Grace Allowed:** 0 Weeks

**Current Run Hour Clock:** 0 Hrs

**Maintenance Trigger:**

**Job Status:** Active

**Last Date Done:** 09/08/2021

**Tentative Due Date:**

**PREDECESSORS**

**JOB DESCRIPTION**

SIDE HANDLING UNIT, FWD CTD, ALLIED 30 MTS TEST  
TEST, WEIGHT (30-MO)

WEIGHT TEST AND EXAMINATION, CRANE (30-MO)

**INSTRUCTIONS**

The ship carries a number of cranes, A-frames and other weight-handling devices which are not listed on the vessel's Register of Cargo Gear. It is prudent to weight test and examine these items on a periodic basis. Only the North American cranes are required to be tested at a 5 year interval.

It is the policy on the Sally Ride to try and test all weight handling gear every 2.5 years at 125% of its posted SWL.

It is possible to do this testing onboard using a dynamometer or the test can be conducted in port, using a water bag or other means.

At a minimum, the listed gear should be tested using the following table:

Equipment	SWL	125% of SWL
*****		
Hiab Cranes	2,310 lbs	2,888 lbs
North American Cranes	1,700 lbs	2,125 lbs
DMV Crane	1,325 lbs	1,656 lbs
TK70-70	10,000 lbs	12,500 lbs
TK4-302	000 lbs	2,500 lbs
Hanger Chain Hoist	6,000 lbs	6,000 lbs
Chain hoists are not to be tested at 125% see manual. 3 ton chain fall will only pick up 6000lbs. Damage to clutch will result if more weight is attempted.		
A-frame (dynamic)	10,000 lbs	12,500 lbs
A-frame (static)	30,000 lbs	37,500 lbs
SSHS Side Handler	11,100 lbs	13,875 lbs
CTD Cast 61	1,100 lbs	13,875 lbs
Rescue Boat Davit	???? lbs	???? lbs

Upon satisfactory completion of the weight test/examination, record results in ship's log and report back to NS5.

When reporting this job back to NS5, record any notes under the Findings tab.

**REFERENCE**

- 46 CFR 91.25-25
- 29 CFR 1918.11(a)(2)
- ILO Convention 152 and Recommendation 160

Updated 5/10/17 RCF

Updated 2/26/16 EB

**VESSEL SPECIFIC DESCRIPTION**

**SKILLS**

**REQUIRED MATERIAL:**

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6e. SIDE HANDLING UNIT, FWD CTD, ALLIED MAINT. & INSPECTION 1-MO.

**Ship Name:** SALLY RIDE**System:** 500 AUXILIARY SYSTEMS**Machinery:** SIDE HANDLING UNIT, FWD CTD, ALLIED**Average Operation Time:** 0**Total Hours:**0**Specification Work Category:** PERIODIC**JOB TITLE:** SIDE HANDLING UNIT, FWD CTD, ALLIED MAINT. & INSPECTION 1-MO  
MO**JSI:** 1**Job No.:** 800000251**Subject Index Term:** CTD HD, FWD (1-MO)\*MAINT & INSPT - SR ER**Interval:** 1 MONTHS**Priority:** B**Grace Allowed:** 0 Weeks**Current Run Hour Clock:** 0 Hrs**Maintenance Trigger:****Job Status:** Active**Last Date Done:** 11/22/2022**Tentative Due Date:****PREDECESSORS****JOB DESCRIPTION**SIDE HANDLING UNIT, FWD CTD, ALLIED MAINT. & INSPECTION 1-MO  
CTD HANDLING DEVICE MAINTENANCE & INSPECTION, 1-MONTH

1. Inspect all fasteners, checking for loose or corroded fasteners.
2. Inspect hydraulic hoses, tubes, fittings and connections.
3. Inspect hydraulic cylinders.
4. Inspect structure.
5. Lubricate drive gear teeth and pinion gears.
6. Check sheaves and lubricate. This includes the turning sheaves mounted just inboard of the handling device.
7. Wash down with freshwater and detergent if necessary and if it does not interfere with operations.
8. If not in regular use, exercise boom, jib and extension cylinders.

Use only EP1 or EP2, multipurpose grease containing molybdenum disulfide (MoS2) and a suitable corrosion inhibitor.  
For ambient temperatures below 10° F (-12° C), use EP1.

REF: 573D - Allied CTD Handling Unit Technical Manual, Chapter 5.

**GENERAL NOTES:**

Any deficiencies should be reported and corrected as required. Refer to your Technical Manual for specific details.  
When reporting this job back to NS5, record any notes about the job under the Findings tab.

**VESSEL SPECIFIC DESCRIPTION****SKILLS****REQUIRED MATERIAL:**

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6f. SIDE HANDLING UNIT, FWD CTD, ALLIED MAINT. & INSPECTION 3-MO

**Ship Name:** SALLY RIDE**System:** 500 AUXILIARY SYSTEMS**Machinery:** SIDE HANDLING UNIT, FWD CTD, ALLIED**Average Operation Time:** 0**Total Hours:** 0**Specification Work Category:** PERIODIC**JOB TITLE:** SIDE HANDLING UNIT, FWD CTD, ALLIED MAINT. & INSPECTION 3-MO  
JSI: 2**Job No.:** 800000253**Subject Index Term:** HD FWD & AFT 3-MO\*MAINT & INSPT - SR ER**Interval:** 3 MONTHS**Priority:** B**Grace Allowed:** 0 Weeks**Current Run Hour Clock:** 0 Hrs**Maintenance Trigger:****Job Status:** Active**Last Date Done:** 09/13/2022**Tentative Due Date:****PREDECESSORS****JOB DESCRIPTION**SIDE HANDLING UNIT, FWD CTD, ALLIED MAINT. & INSPECTION 3-MO  
SIDE HANDLING DEVICES, FWD & AFT, 3-MONTHS

1. Lubricate extension boom.
  - a. Completely extend the boom.
  - b. Using a paint roller, apply grease to all 4 sides.
  - c. Retract and extend the boom assembly several times to distribute grease.

2. Lubricate Docking Head Dampening Motor, CTC Handling Device only.

There are two grease zerks on the top of the dampening motor, and two drain locations on the bottom side of the actuator.

- a. Pump grease into the zerk until grease flows from the drain location.
- b. Cycle the actuator and five times and apply grease again.
- c. Repeat this process on the second grease zerk.

Use only EP1 or EP2, multipurpose grease containing molybdenum disulfide (MoS<sub>2</sub>) and a suitable corrosion inhibitor. For ambient temperatures below 10° F (-12° C), use EP1.

REF: 573D - Allied CTD Handling Unit Technical Manual, Chapter 5.

**GENERAL NOTES:**

Any deficiencies should be reported and corrected as required. Refer to your Technical Manual for specific details. When reporting this job back to NS5, record any notes about the job under the Findings tab.

**VESSEL SPECIFIC DESCRIPTION****SKILLS****REQUIRED MATERIAL:**

# OHS Operator's Manual

R/V Sally Ride CTD-11V OHS

Revision 12/21/2022



6g. Lubrication procedure for Rochester A301592 CTD cable.

Spool the cable off of the winch drum annually. As it's spooled, inspect it for broken strands, severe corrosion, kinks, or any other obvious signs of damage. Inspect the winch drum for corrosion. Paint and preserve any corroded areas on the drum that contact the wire rope. Lubricate the wire rope as it's spooled back onto the winch drum, using Grignard OLL-D2 or Grignard Prelube 19 IAW the *UNOLS Wire Pool Wire Maintenance Policy, January 2015*. Document the lubrication in the UNOLS Wire Pool Database.