# UNOLS Research Vessel Safety Standard (RVSS) Appendix B

*June 2023 Ed.*

# WHAT IS IT?

RVSS Appendix B:

Pertains to overboard handling systems (OHS).

Aimed at improving the safety of personnel and gear used to deploy oceanographic instrumentation.

# WHERE DID IT COME FROM?

RVSS Appendix B ≈

46 CFR Subpart 189.35

# WHAT DOES APPENDIX B APPLY TO?

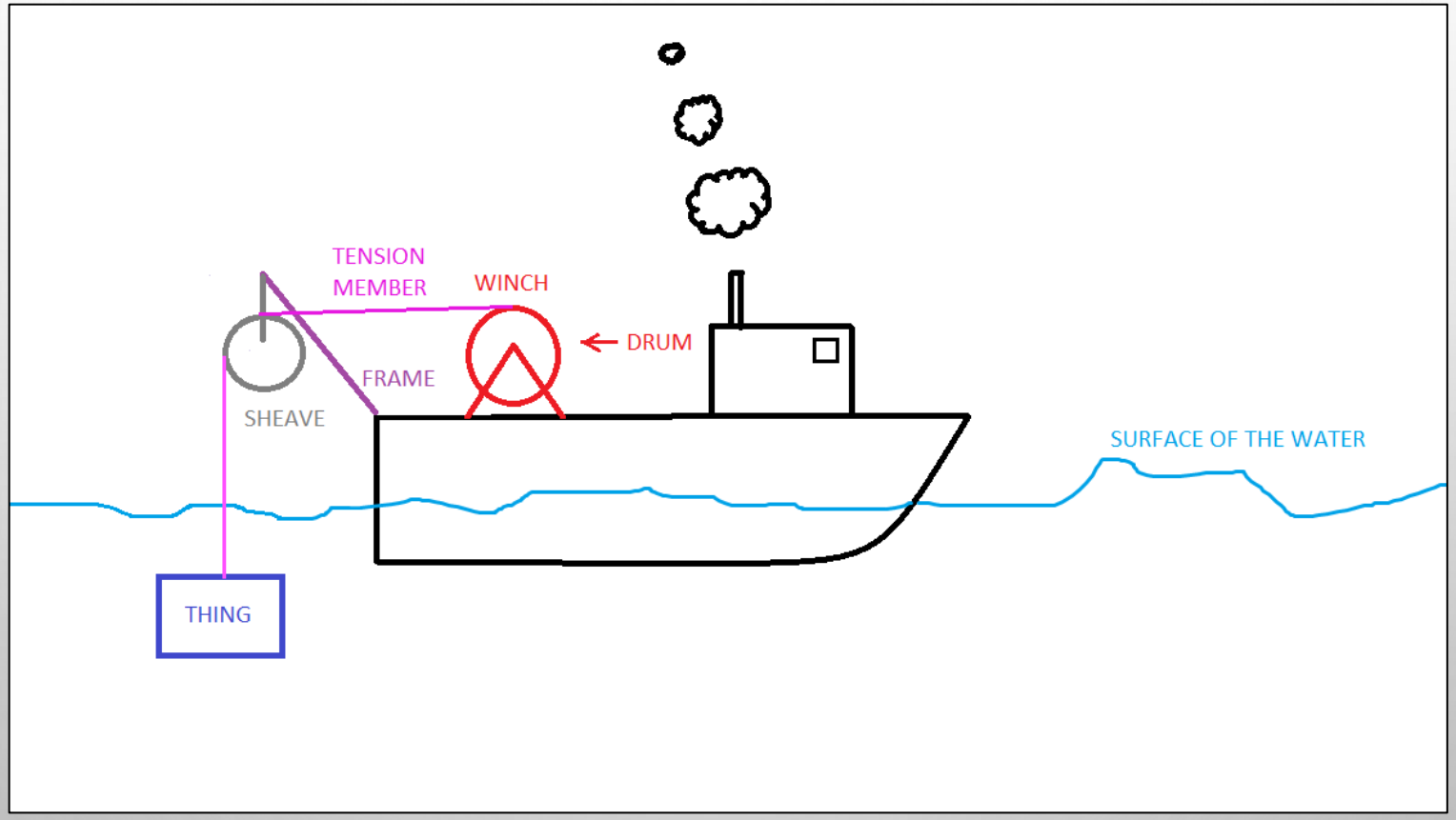
## **All Overboard Handling Systems (OHS):**

i. Gear used to lower things below the surface of the water.

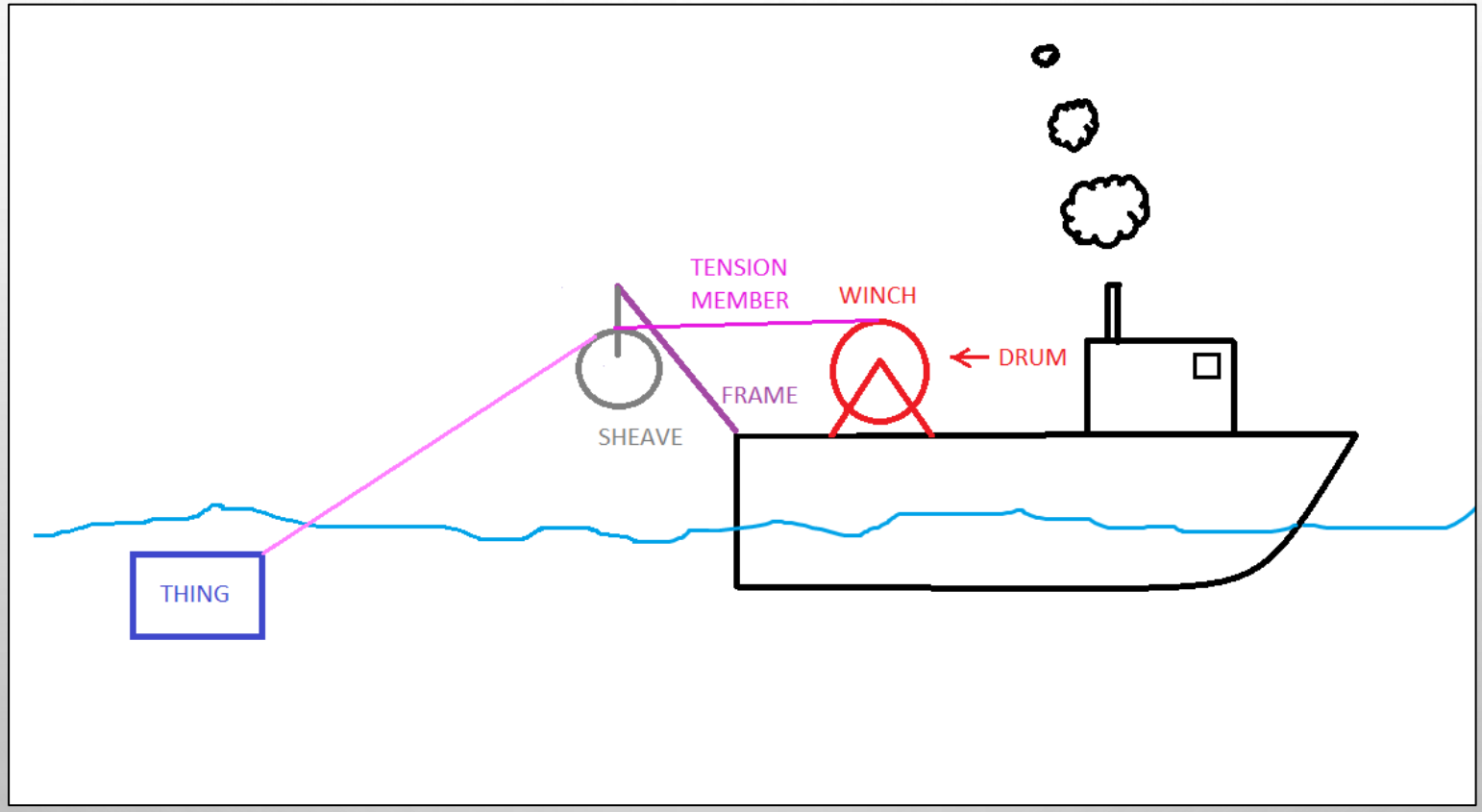
ii. Gear used to drag/tow things in the water.

iii. Gear that includes a tension member paid out beneath the surface of the water which becomes part of the line pull at the head sheave or winch drum.

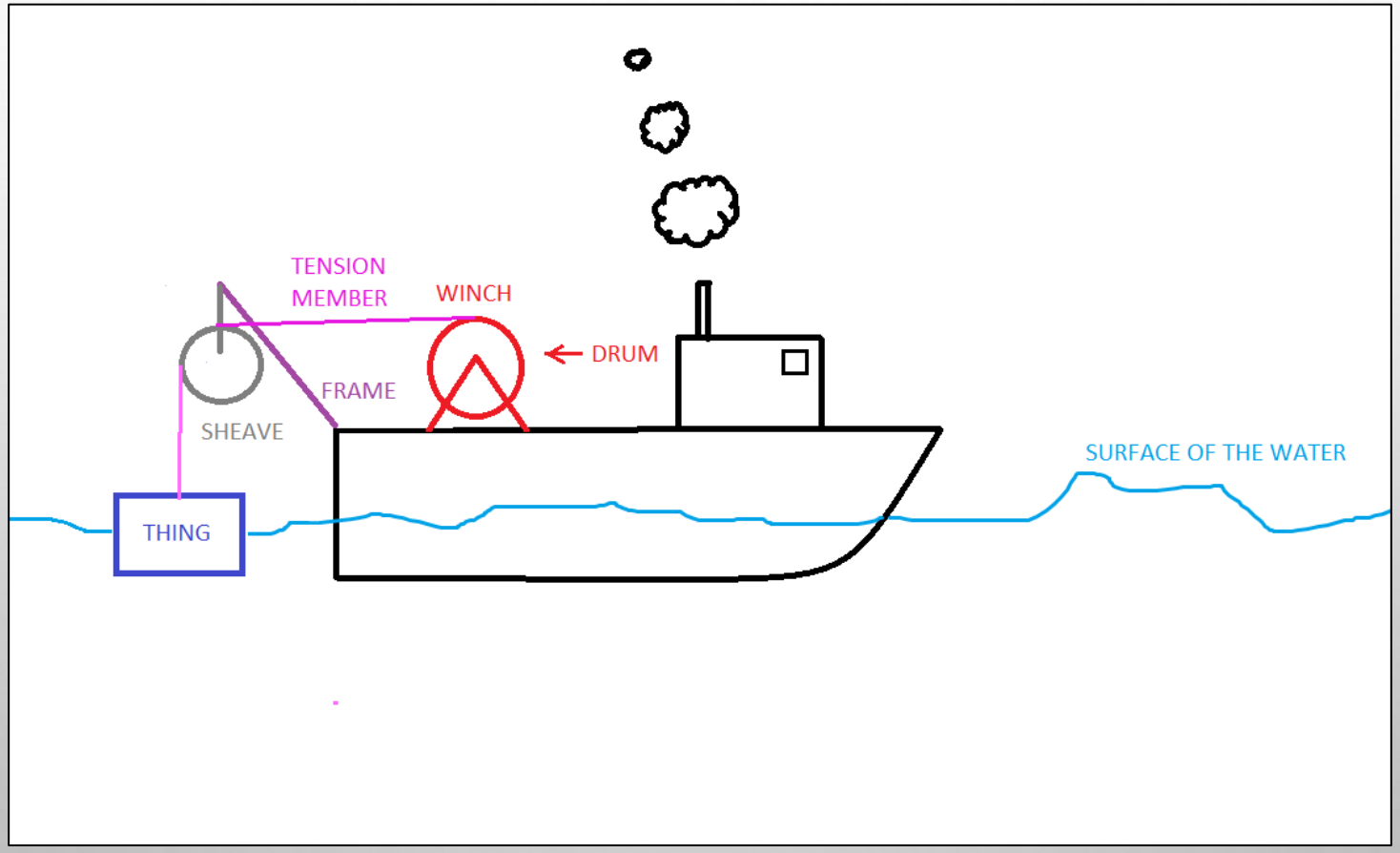
# OVERBOARD HANDLING SYSTEMS EX. 1



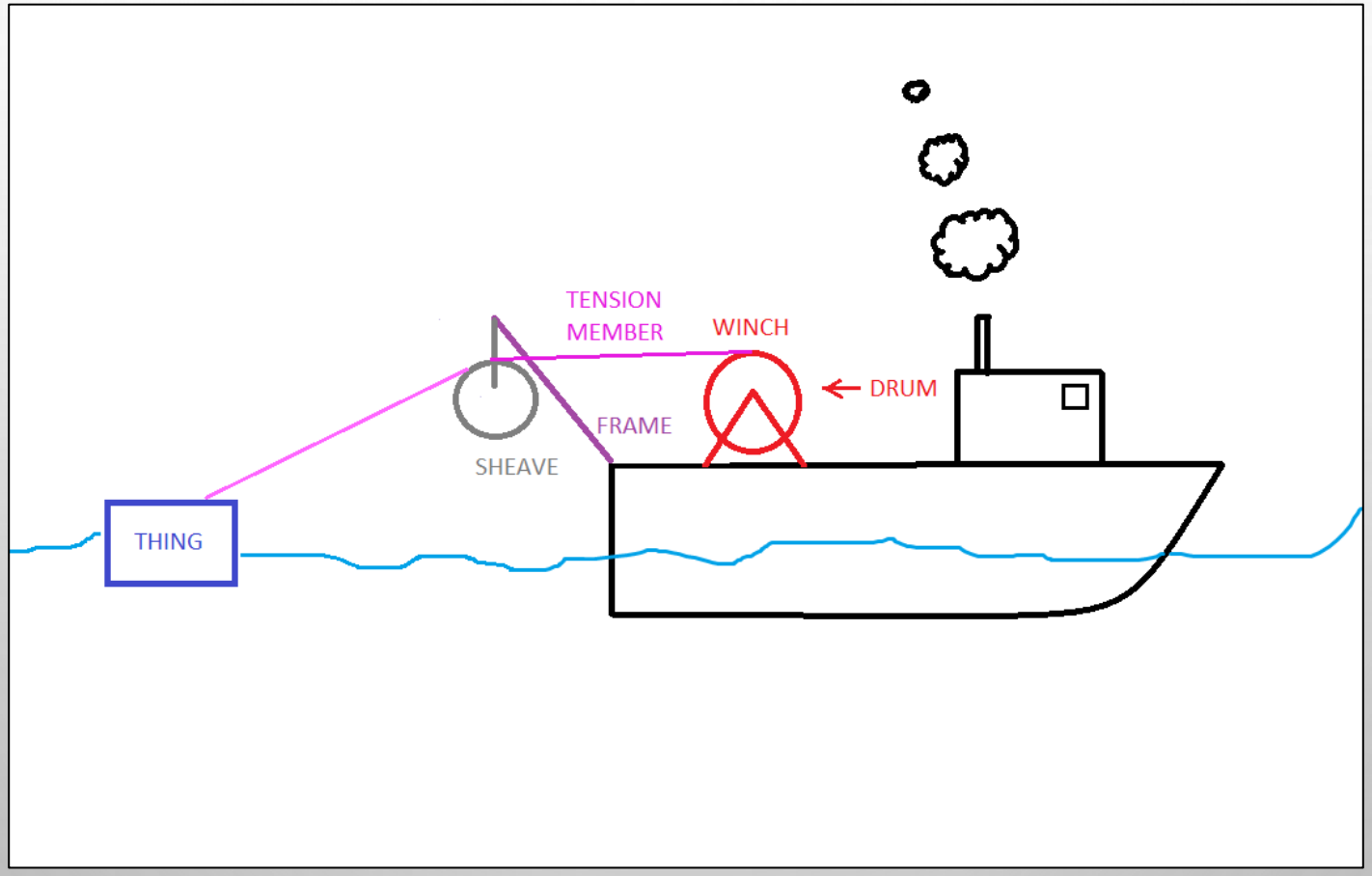
# OVERBOARD HANDLING SYSTEMS EX. 2



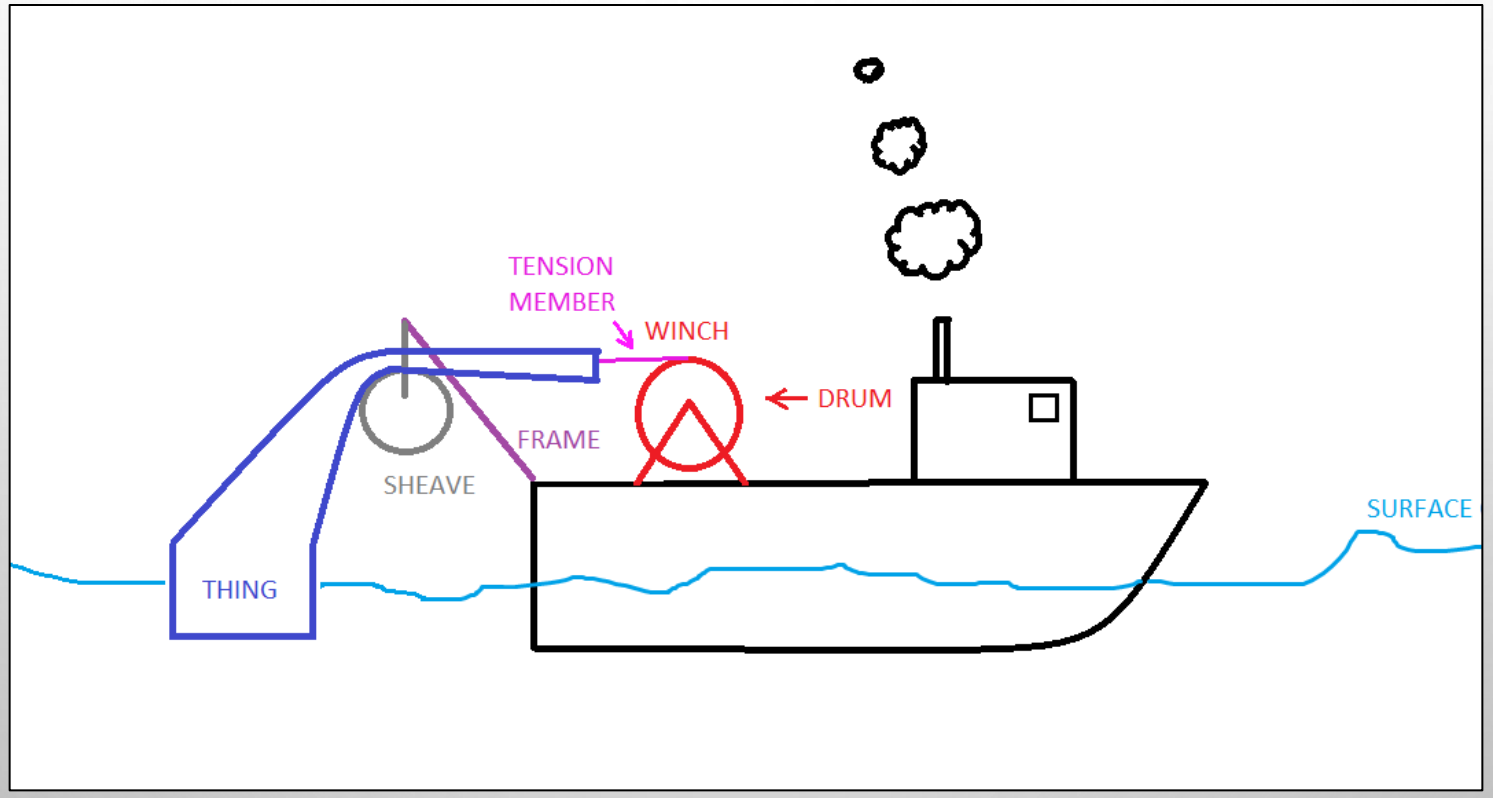
# OVERBOARD HANDLING SYSTEMS EX. 3



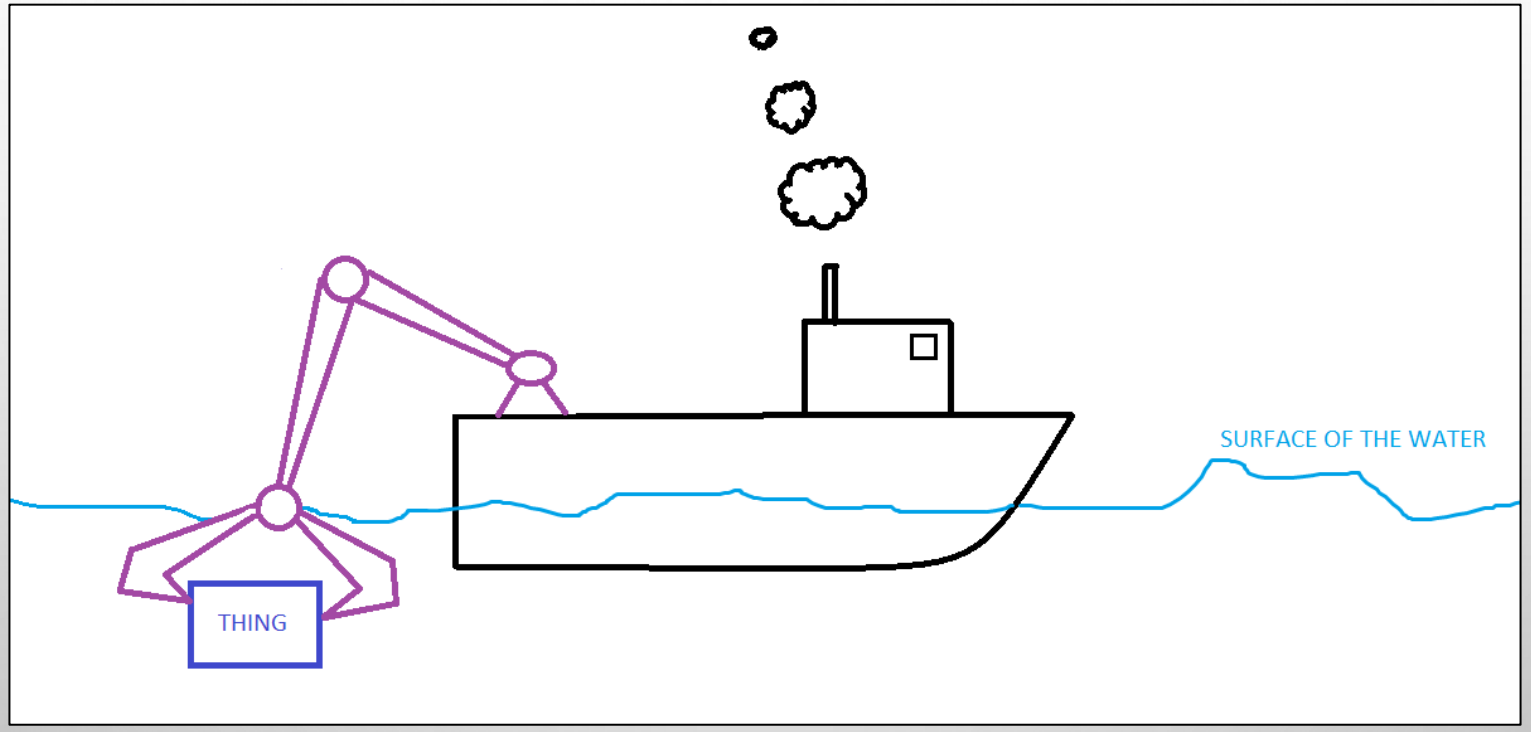
# OVERBOARD HANDLING SYSTEMS EX. 4



# OVERBOARD HANDLING SYSTEMS EX. 5



# OVERBOARD HANDLING SYSTEMS EX. 6



# RULES FOR OVERBOARD HANDLING SYSTEMS

i. Design

ii. Installation.

iii. Testing & inspection.

iv. Labeling.

v. Training.

vi. Documentation.

# DESIGN RULES

## Minimum Strength:  Inspected Vessels

For inspected vessels , system components shall be designed, as a minimum, to withstand and operate in excess of the Nominal Breaking Load (NBL) of the strongest tension member used.

# DESIGN RULES

## Minimum Strength:  Uninspected Vessels

Weak links

Torque limiters

Auto-render

# DESIGN RULES

## Minimum Strength: Direction of Pull

Suitable assumptions for the actual loading conditions shall be used in the design of overboard handling systems. The lead of he wire rope from the head sheave or winch drum shall be considered to vary from the vertical and azimuth in a manner to represent the most adverse loading condition.

# DESIGN RULES

Maximum Stress = Yield Stress/1.5

(66% the Yield stress)

# DESIGN RULES

## Recommended Design Features

i. Guards
ii. Signaling Devices
iii. E-Stops
iv. Electrical Safeguards
v. Dead-person controls

# INSTALLATION

i. Install IAW manufacturer's instructions.
ii. Guards must be in place.
iii. Operational limitations must be posted.
iv. Don't exceed trim/stability limitations.

# TESTING

## What, When & Why

i. Every component must be tested.

ii. Test each component as its used at sea (except deck hardware).

iii. Test and assess when new.

iv. Test every 5 years after that.

# INITIAL TESTING & ASSESSMENT

i. Make sure the system/component for its intended use.

ii. Test each piece, as it's used at sea, to 125% of it’s safe working tension.

iii. Remove all access covers and inspect it.

iv. Look more deeply if you think you broke it.

# PERIODIC TESTING

i. Every 5 years

ii. Test each component, as it's used at sea, to 125% of it’s safe working tension.

# TESTING

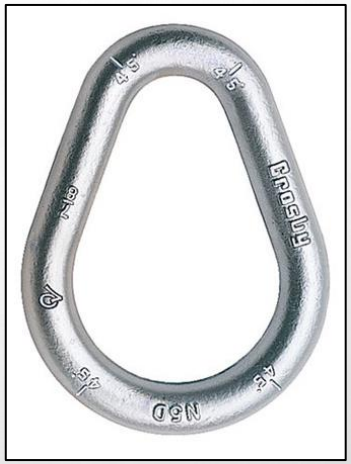
## Testing Deck Hardware

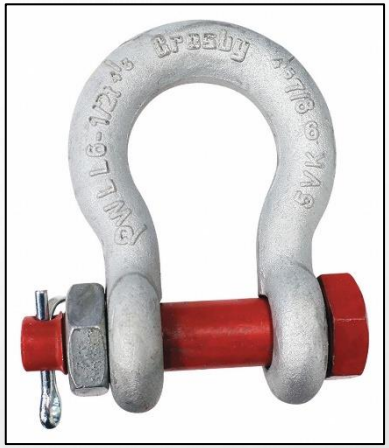
i. Shackles, pear links, swivels, bolts…

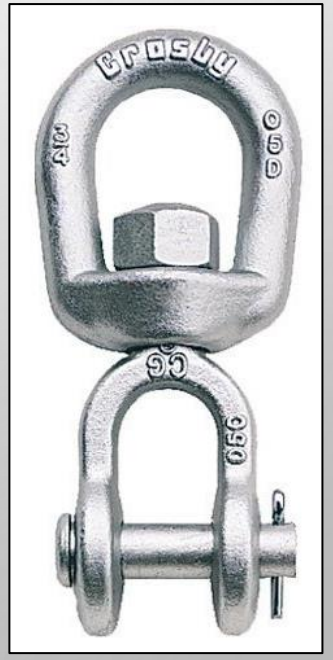
ii. Inspect for damage

iii. Ensure the load rating / grade is still visible

iv. Discard worn/failed hardware



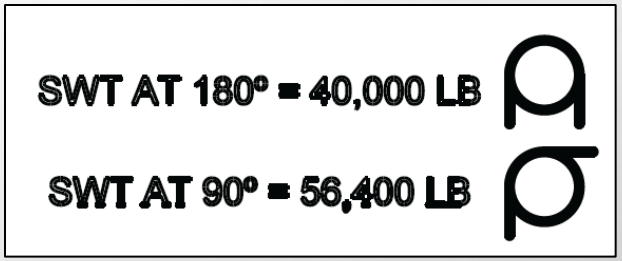
# DECK SOCKETS

i. Test the ones you use.

ii. Mark any that are broken.

# LABELING

i. Test date
ii. The safe working tension (SWT)
iii. A diagram (if possible)




(Deck hardware only)

i. Strength / grade markings
ii. Indicate they've been inspected recently

# LOGS

i. Test date
ii. The test method (a written procedure)
iii. The names of those involved
iv. Also make entries whenever gear is inspected, repaired, or experiences a casualty

# TRAINING

i. A formal training program is required
ii. All operators must complete the program
iii. Refresher training is required annually
iv. The program must include auditable records

# OHS OPERATOR'S MANUALS

i. A detailed description of the OHS layout
ii. OHS test procedures
iii. Procedural safety requirements
iv. Operator training procedures
v. References to component manuals/data sheets
vi. Maintenance procedures

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#NSF WINCH POOL