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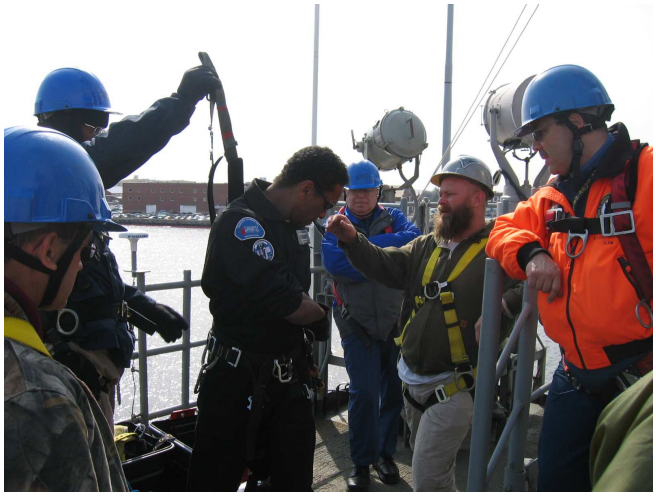
SAFETY ON SHIPS

MILITARY SEALIFT COMMAND

Afloat Fall Protection



ATT, Safety and crew from USNS Grapple participating in Fall Protection Competent Person Training in Norfolk

Going aloft can be one of the most difficult tasks aboard a vessel. In earlier sailing times, climbing to the top royals aboard a tall ship was a rite of passage for seamen. With improvements in equipment we have come a long way since the days of tall ships, but the task still take us to dangerous heights.

In early March, crew from the USNS Grasp and USNS Grapple as well as members of Afloat Training Teams, Training Center Staff and Safety personnel participated in Fall Protection Competent Person training.

The training, held at St. Helena's Annex, covered roles and responsibilities in a Fall Protection Program and the applicable standards and regulations.

The training addressed the various hazards and mitigation for falls, the selection of equipment, and inspection of such.

Three days of classroom training was augmented by two days of practical exercises on the main mast of the USNS Grapple. The practical exercise afforded all the opportunity to try different kinds of harnesses, lanyards and various fall protection gear.

The conclusion of the practical exercise was a demonstration of a High Angle rescue where the fall victim was hanging by an arrest lanyard half way up mast.

Other topics covered included:

- The importance of

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Safety Myth – You get used to noise exposure - the ears get tougher.

Reality: An individual exposed to noise does not get used to the exposure. The loss of hearing simply increases the threshold of hearing perception, distorts clarity of communications and thus reduces the apparent intensity of noise exposure. Hearing loss continues as exposure is sustained. Because little if any pain is felt with hearing loss, many individuals aren't aware of hearing loss until it is too late.

What's wrong with these pictures?

(Answers on Page 7)

Inspecting Your Fall Protection Equipment

Inspection guidelines

Hardware — Inspect hardware (including snap hooks, D-rings and buckles) for damage with sight and touch. Check for distortion, corrosion, burrs, cracks and worn parts. Inspect mechanical devices for correct assembly and operation.

Webbing — Run hand along both sides of entire length of webbing. Inspect webbing for frays, cuts or broken fibers. Check for tears, abrasion, mold, burns, heavy soiling or discoloration. Inspect stitching for damage. Inspect impact indicators(if present).

Wire rope, synthetic rope — Inspect for cuts, kinks, broken wires and fibers, corrosion, chemical contact and severely abraded areas.

Fall Protection

(continued from page 1)

maintaining primary and secondary means of fall protection.

- When climbing a ladder with a rail climbing device the primary fall protection system is hands and feet; the secondary is the rail climbing system. If the task requires both hands at the top of the ladder, then two systems should be employed such as a work lanyard and the ladder rail slider.
- Never hook a lanyard back to itself or to another lanyard hook as it could cause a forced roll-out where the connection separates

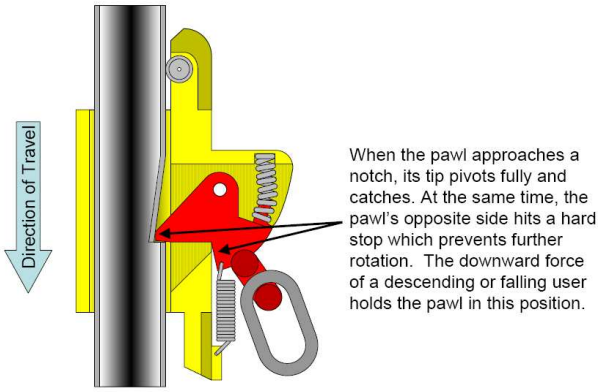
"End User" training for Fall Protection is available from the Afloat Training Teams .

To ensure you are protected review the SMS procedures 2.1-013-ALL Working Aloft.

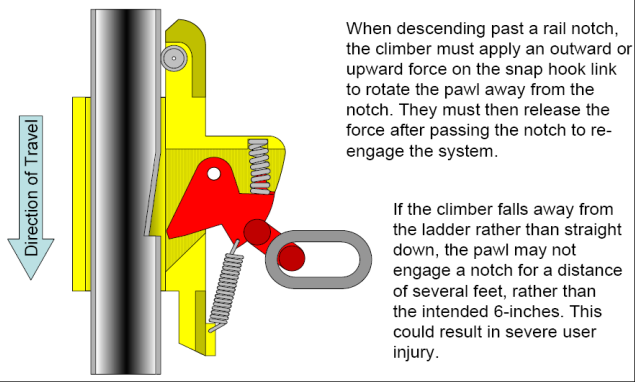
Ladder Rail Climbing Devices

Over the last several months two manufacturers have issued safety advisories for ladder rail climbing devices. Apparently, in some cases, the pawl can remain open and in turn causes much high arresting forces prior to engaging. Such forces could inflict significant injury as well as cause entire system failure. To this end, the advisories require the use of rail climbing devices with the use of a Y lanyards. Below are diagrams identifying the problems and steps that should be taken to mitigate this defect until redesign by manufacturers.

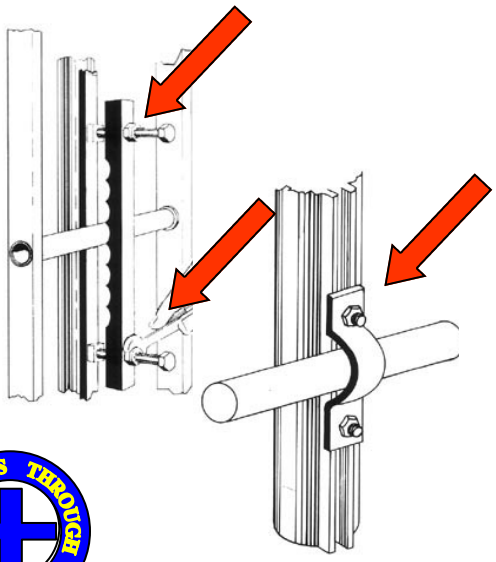
Notch and Sleeve Ladder Safety Device – Normal Descent and Fall Arrest Configuration



Notch and Sleeve Ladder Safety Device Normal Descent and Potential Abnormal Fall Arrest Configuration



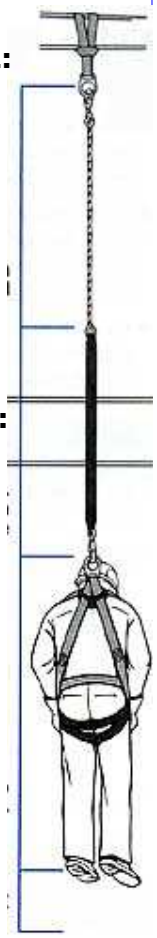
Inspect your connections



Augment Ladder Rail Climbing device with Y-Lanyard

Properly attach Y-Lanyard hooks to ladder side rail

How far will you fall?



Lanyard Length:

6'

Deceleration Device:

3.5'

Harness Stretch:

1'

Worker Height:

5'

Safety Margin:

2'

Total Fall: 17.5'

So you have to work aloft and you are using a 6 ft lanyard. If you fall you will only fall 6 feet right? Wrong see the diagram above to see the potential fall.

This highlights the need to keep the anchor point at waist height or above.

Slips, Trips, and Falls

Slips, trips, and falls are the leading cause of workplace injury and fatalities. There are over 300,000 fall injuries annually.

A significant portion of the lost time injuries that occur to our mariners are due to slips, trips and falls so why are they occurring and what can we do about them?

Slips: Occur when there is little or not enough friction or traction between footwear and walking/ working surface.

Causes:Wet or slippery decks, ice, oil grease spills. Loose or unanchored/unattached rugs, mats, worn non skid, areas that had non skid that just have paint put down . Badly worn footwear that does not have same degree of traction in all areas.

Trips:Tripping is a loss of balance due to contacting an object or obstruction.

Causes:Bad stair design Uneven surface or steps, loose or no handrails or stair rails, insufficient lighting or illumination, unmarked deck fittings, individual behavior (lack of attention)

Falls: A loss of balance or footing that results in impacting deck. A fall may be from a higher level or a same level fall.

Causes: Primary cause of falls is Slips and Trips. Also an unprotected edge at top of ladders or deck houses. A slip or trip doesn't have to result in a fall. We all know the saying about having one hand for the vessel. If a slip/ trip occurs you may be able to catch yourself or minimize the impact with the deck. Sometimes this is not practical due to the task at hand. Other consideration are:

- Use only properly maintained ladders to reach items
- Do not use stools, chairs, or boxes as substitutes for ladders
- Temporary electrical cords that cross aisles should be anchored to the floor

Please refer to SMS Procedure 2.1-014-All

Safety Quiz

1. What does DPA stand for and who is it?

2. Who can write a finding report in the SMS system?

3. What D ring on a full body harness may you connect to for work positioning?

4. What D ring on a full body harness may you connect to for Fall Arrest?

5. What are the shoulder D rings used for?

6. What is the body weight limit for a full body harnesses?

7. What is the manufacturing standard for harness?

8. How can you tell if the harness meets standard?

9. What do you do if a harness has no tags?

10. Do you use any chemicals or hazardous substances? Which? How do you know the dangers?

11.What is the signal for abandon ship?

12. What is the signal for fire?

13. What is the signal for man overboard?

14. Where is the SOLAS training manual located?

Provide your department heads or supervisors with suggestions on how you think procedures should be written.

Review SMS system on shipboard LAN or at:

http://basic.share.expertman.com/imsshare/

User: **ismguest** Password: **ismguest**

Safety Suggestions From the Fleet

- ATT and TRACEN personnel should receive SMS Familiarization training.
- Extra forklift control cards should be maintained as onboard spares.
- Better enforcement of forklift standards needs to be in place. There are several unlicensed individuals around the fleet that operate fork trucks.
- Mariners should not be assigned to vessels without required training.

If you have suggestion let us know

Safety Management System

A formal familiarization with the program was conducted aboard TAKE 1, Lewis and Clark, on her transit from Norfolk to Charleston. She should have a Safety Management Certificate (SMC) prior to her next deployment.

Fleet oilers continue to integrate into the SMS system. Eleven vessels now have SMCs and are enrolling in the USCG Alternate Compliance Program.

The Steering Committee met on March 29th in Norfolk. The agenda reviewed the status of implementation on Fleet Tugs and Oilers and focused on implementation of TAKE procedures.

There were also revisions to reporting procedures, fall protection and man lift procedures.

A new CD with revised procedures will be distributed to the fleet in early May.

Incident	Lessons Learned
Mariner was staging cargo for vertical replenishment on the flight deck. He stood too close to a fork truck that backed unexpectedly in a turn. The tire of the fork truck rode up onto his foot and ankle. Steel toed shoes were worn, equipment operator was properly licensed.	It is essential that all crew maintain situational awareness during operations. Know what hazards exist around you and communicate those hazards to others. When working around fork trucks complete your task and get clear. Do not turn your back on the hazard. Fork truck drivers, always check both sides before you back. New cargo or personnel could have appeared during your last lift.
Victim was employed in the duties of cargo handler stowing cargo in ship's freezer hold when a fork truck backed over right foot.	See above.
Person slipped twice on spilled oil on the deck resulting in a sprained ankle. Immediate action to clean the oily substance could have prevented the mishap.	Time critical risk management is also referred to as common sense. If a hazard can be easily mitigated it should be not ignored. Wiping up spills and picking up trip hazards can pay significant dividends if it prevents a mishap.
Mariner fell down ladder while working on overhead.	Use Time Critical Risk Management when performing a simple job. Look at what could go wrong and what the most immediate hazards are. An open edge with a fall exposure can be mitigated with temporary rail, gate or another worker monitoring edge.
Bubbles in compressor-while charging unit with R-22, relief valve blasted off the condenser receiver at about 1 foot from head resulting in burns to face.	When utilizing any type of accumulator or receiver, there is always a threat of accidental release of hazardous energy. Manage the risk with good lockout/tagout program and provide additional protection with PPE. Consider use of face shield.
Left hand grinder trauma while grinding off nut & bolt off valve .	Grinders all have guards and hand grips installed for a reason. If the guard is removed debris could fly in unexpected direction and without the grip installed, there is no place to hold a tool that requires two hands to use.

Safety Quiz Answers:

1. Designated Person Ashore, Gerry Abrams
2. Anyone can write a finding report
3. Side D Rings
4. Dorsal D Rings
5. Recovery from Confined Spaces
6. 310 lbs
7. ANSI Z359.1
8. If it is marked ANSI Z359.1
9. Destroy it
10. MSDS
11. Six short blasts followed by one long blast on ship's whistle and general alarm
12. Continuous ringing of general alarm for ten seconds
13. Morse Letter Oscar(—- —- —-) on whistle and general alarm
14. Crew mess

What's wrong with the pictures

Pic 1: Work lanyard is attached to side D ring around mast and back to shoulder D ring. Work lanyards are meant to connect from Side D ring to alternate e Side D Ring. Shoulder D rings are for confined space recovery. Dorsal D ring is for Fall arrest.

Pic 2: The work lanyard is anchored about 4 feet below worker. This is a work lanyard and should restrain worker from falling. This configuration uses it for fall arrest. Even in fall arrest the max freefall is 6 feet which this appears to be greater than.

Pic 3: The ladder rail climbing device can be seen in the background. The hand rails on cross tree provide limited protection and the hook appears to be connected back to the work lanyard. Not an effective fall restraint system should have considered attaching to the higher hand rail and securing back to other Side D ring.

Safety Recognition

We would like to recognize the following individuals for their continued efforts towards improving the Safety Program:

CAPT Curt Smith and the crew of the USNS Grapple for their significant contributions to improve the Fall Protection Program,

CAPT Delfaus - CAPT Seipert - CAPT Perdue

Frank Wareham - Ron Law - Jose Hernandez -

Anton Clemens - BOSUN Barry - Robert Scoffield -

William Minton - Bill Anderson - Nick Ramsey

Tim Wheeler - Mike Ricci - Mike Price

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This Date in History

Feb 12, 1983 *Marine Electric* sinks thirty miles off of North Carolina coast. 31 of 34 crew members die in disaster. The investigation reveal significant breakdowns in inspection process that allowed a potentially unseaworthy ship to put to sea.

Feb 15, 1982 Semi submersible Mobile Offshore Drilling Unit (MODU) *Ocean Ranger* capsizes and sinks off Newfoundland. Heavy waves damaged port light and allowed ingress of water into Ballast Control Room. Malfunction of the ballast control system allowed for a list and subsequent down flooding of chain lockers. The investigation revealed few drills and little training with life saving equipment. 84 crew members were lost in the incident, exposure killed many survivors.

Feb 27 1984 *American Eagle* explosion and sink in Gulf of Mexico

March 7, 1989. Engine room fire Aboard the U.S. Tankship *Charleston* in the Atlantic Ocean about 35 Miles off the South Carolina coast

March 15,1988. Fire on Board the Bahamian Passenger Ship the *Scandinavian Star* in the Gulf of Mexico. Response to fire was hindered by breakdown in crew communications and failures of fire fighting systems.

March 22, 1990 The Fish Processing Vessel *Aleutian Enterprise* capsized after hauling a net of fish onto deck in the Bering Sea Of 31 crew aboard only 9 were rescued. The NTSB cited lack of training equipment maintenance and oversight as causes

March 24, 1989 *Exxon Valdez* runs aground on Bligh Reef in Prince William Sound off the Alaskan Coast. Up to 30 million gallons of crude oil were spilled creating one of the largest environmental disasters in history.

March 29, 1980. Collision of U.S. Mississippi River Steamer *Natchez* and U.S. Tankship *SS Exxon Baltimore*, New Orleans, Louisiana,