FALL PROTECTION

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What is fall protection?

Defined by the Department of the Navy (DON) Fall Protection Guide as an action and procedures to protect a worker effectively from fall hazards. Any equipment, device or system that prevents an accidental fall from elevation or mitigates the effect of such a fall.

Sailors use stacked trashcans as a makeshift work platform (Photo courtesy of Fathom magazine, 1969)

Why is fall protection important?

Falls from heights are a leading cause of work-related injuries and fatalities. They are the leading cause in construction and the second most common cause in general industry. Employers must set up the workplace to prevent employees from falling off of overhead platforms, elevated workstations or into holes in the floor and walls. Work related fatalities due to falls, slips and trips have increased each year, thus causing requirements to change.

Fall protection requirements have changed drastically over the years, but it has been a concern for the Navy since 1969. The Navy has come a long way from using trashcans stacked on top of each other to access maintenance areas. Now we use advanced work platforms designed by engineers to specifically fit each type-model-series aircraft in the Navy's fleet of aircraft.

Bringing this hazard to the forefront, the first three Naval Safety Command local area assessments noted 160 fall protection discrepancies, ranging from poorly maintained handrails to a lack of a unit fall protection program. Although we use advanced fall protection measures, it takes everyone following the basic fall protection procedures to ensure we are all safe while doing our jobs at various heights or when introduced to any fall hazard.

Fall hazards include any location where a person is exposed to a potential free fall. This could be an unprotected side or edge of a walking or working surface or an unprotected opening from which a person could fall to a lower surface. To address these hazards, we apply control measures to eliminate, prevent or lessen the severity of a hazard. The preferred order of control measures for fall hazards are:

1. Elimination – Removal of the hazard from a workplace. This is the most effective control measure, e.g., lowering various devices or instruments installed at high locations, such as meters or valves, to the height level of the individual instead of servicing such devices or instruments at heights.

2. Prevention – This traditional control measure uses the isolation or separation of the hazards from the general work areas, e.g., using same-level barriers such as guardrails, walls, covers or compliant parapets.

3. Engineering controls – Where the hazard cannot be eliminated, isolated or separated, engineering controls are the next preferred measure to controlling the risk. For example, design change or use of various equipment or techniques, such as aerial lift equipment or movable or stationary work platforms. The most common fall protection systems used are stands and ladders. Some aircraft are equipped with an area that is integral to the aircraft and provides a a place to work for maintenance personnel. Additional fall protection may be required, such as a fall arrestment or fall restraint system; for example, a worker on an aerial lift inside a basket with guard rails and wearing a fall restraint harness system.

4. Administrative controls – This includes introducing new work practices that reduce the risk of falling, e.g., erecting warning lines or designated areas, restricting access to certain areas, posting warning signs and training).

5. Personal protective systems and equipment – These should be used after other control measures, such as eliminating or isolating fall hazards, are determined impractical or when secondary systems are needed, e.g., when it's necessary to increase protection by employing a backup system.

According to OPNAVINST 5100.23/5100.19 Series, MCO 5100.29 and NAVMC DIR 5100.8 Fall Protection Program Chapters, "Each Navy or Marine Corps command, unit, or activity, which has personnel working at heights and exposed to fall hazards, is required to establish a fall protection program." The requirements in the DON Fall Protection Guide are mandatory for all

Aircraft maintenance contractors use a FlexDecks Osprey Wing and Nose Stand to maintain an MV-22B Osprey at Marine Corps Air Station Futenma, Okinawa, Japan. The platforms offer full nose and wing fall protection and enhanced worker safety while creating a more proficient maintenance process. (U.S. Marine Corps photo by Cpl. Andy Martinez)

commands, units, or activities developing and implementing a fall protection program. When standing up a command fall protection program, you may ask what the difference is between a qualified person and a competent person.

In terms of fall protection, a qualified person is defined as a person with a recognized engineering degree or professional certification who possess extensive knowledge, training and experience in the fall protection and rescue field. This person is also capable of performing design, analysis and evaluation of fall protection rescue systems and equipment.

A competent person in regard to fall protection is a person designated by the command to be responsible for the immediate supervision, implementation and monitoring of the fall protection program. The competent person's training, knowledge and expertise enables them to identify, evaluate and address existing and potential fall hazards as well as the application and use of personal fall arrest and rescue system or any component thereof. This person also has the authority to take prompt corrective measures to eliminate or control the hazards of falling.

How do you know what fall protection equipment to use? Is it authorized?

Here are a few basic tips on selecting the appropriate equipment:

• DON activities shall only use equipment that meets ANSI Z359. FP Code/Standards.

• Any equipment not meeting at least ANSI/ASSE Z359.1-2007 is not authorized for use and shall be taken out of service.

• Only a qualified person for fall protection can make the determination of increasing the free fall distance more than 6 feet.

As stated earlier, administrative controls are policies and procedures for safe work practices. A few examples of administrative controls include:

Raising awareness by providing suitable warnings, markings, placards, signs and notices
Establishing policy through programs, instructions and standard operating procedures as well as training to conduct deliberate risk assessment and mitigation.

Staff Sgt. Vandergiff models the new HGU-98/P head and hearing protection helmet. (U.S. Marine Corps photo by Gunnery Sgt. Christopher Stamps)

Some basic factors you should consider during your risk assessment and mitigation are work duration, environmental factors, probability of a fall, hazards of a fall, the potential for slippery materials on surfaces and actual work requirement. The greatest effort should be made to limit any exposure to these hazards if unable to apply formal or engineered fall mitigation adjuncts. Fall mitigation adjuncts are equipment that is not classified as fall protection but may reduce the possibility of fall or the severity of injury from a fall, such as nonskid and booties.

A CRANIAL, OTHERWISE KNOWN AS A BUMP CAP, IS NOT FALL PROTECTION!

In the event of a fall, cranials do not prevent a person from contacting a lower level or object. They do not prevent a person from falling, but they do provide a slightly effective additional

layer to possibly prevent serious injury to the head and brain. Unfortunately, the inadequacies of the HGU24/25 cranial have gone unchanged for over 60 years. The three-piece cranial now in use entered service in the 1960s.

Aircraft maintenance contractors use a FlexDecks Osprey Wing and Nose Stand to maintain an MV-22B Osprey at Marine Corps Air Station Futenma, Okinawa, Japan. The platforms offer full nose and wing fall protection and enhanced worker safety while creating a more proficient maintenance process. (U.S. Marine Corps photo by Cpl. Andy Martinez)

Although upgrades over the years have improved its effectiveness, the technology has reached its limit to prevent hearing loss from exposure to increased noise levels now produced by modern aircraft and amphibious capable platforms. For head protection, the advanced cranial prototypes attenuate a significantly greater amount of impact energy compared to that of the current cranial. These newly introduced head and hearing protection helmets are the HGU-98/P and the HGU-99/P.
Inspection, storage, care and maintenance of fall protection equipment is crucial to their longevity and to properly protect you while on the job site. With new gear comes new procedures to maintain them. Chapter 11 of the DON Fall Protection Guide provides guidance, checklists and specific requirements, as there is a lot that goes into keeping you safe from fall hazards.

Whether it is pen on paper or protection measures put in place, all are important. Each serves a purpose in keeping you and the person to your left and right safe. Look out for each other, and make the necessary corrections so you or your buddy are not the ones standing on trashcans.

Cover: A U.S. Marine assigned to the Special Purpose Marine Air-Ground Task Force - Crisis Response - Central Command 20.2, ascends a ladder during a Fall Protection Authorized User course in Kuwait. (U.S. Marine Corps photo by Cpl. Brendan Custer)