

ERGONOMIC IMPROVEMENTS AT NADEP JACKSONVILLE REDUCE CUMULATIVE TRAUMA DISORDERS

Workers in the Tactical Aircraft Branch of Naval Aviation Depot (NADEP), Jacksonville, FL maintain and repair Navy aircraft. This work requires staying in certain positions for long periods of time and working in awkward postures on difficult to reach sections of aircraft. These positions and postures were a major source of cumulative trauma disorders (CTDs) among the workforce assigned to the Tactical Aircraft Branch. Highly skilled and valued workers who were diagnosed with CTDs were temporarily reassigned to less strenuous tasks while they recovered. The loss of these workers reduced productivity and increased costs due to time lost, injury compensation costs, and increased turnaround time because key workers were unavailable.

NADEP Jacksonville's specially trained ergonomics team (Ergo Team) researched and selected ergonomic tools that reduced the risk of back, shoulder, and leg fatigue and CTDs from prolonged standing and overextended reaching as well as from seated reaches while working overhead. For example, an industrial "sit stand," pictured below on the left, has a tilting seat that floats or locks in place to support the worker's spine and relieve leg muscles. Pictured on the right is seating designed with ergonomic comfort features such as height adjustable and reversible arm rests, a tilt back and adjustable neck rest, and foot rests attached to the generously padded seat that adjust with the height range of the seat. The base of this chair can be counter-balanced to allow for extra height.



In addition, hundreds of line workers who responded on a work comfort survey that they were experiencing palm pain and wrist fatigue are now using vibrathane padded gloves that protect and support their hands when driving rivets and holding bucking bars. Workers determined that the best gloves were fingerless to allow for maximum flexibility without sacrificing contact stress relief. Since their work takes them on top of and all around the aircraft, padded floor mats were of little benefit. The Ergo Team tested several types of shoe inserts that go wherever the worker goes. Over a three-year test period the Ergo Team determined that workers preferred machine washable insoles made with a polymer at strike points and durable flexible foam to best absorb impact and reduce pressure on lower leg and foot muscles.

Another recent Ergo Team project provided relief from contact stress for aircraft repair crews working on uneven, rough, or sharp aircraft surfaces. Fabric-covered foam pads in various shapes and sizes were issued to workers to reduce the discomfort associated with prolonged contact while working on these types of surfaces (photo on left). Ergo Team members researched and developed the project and arranged to fund materials and labor through the command's FY01 Ergonomics Fund.



The improvements in workers' comfort levels brought about by Ergo Team efforts at NADEP Jacksonville have resulted in increased productivity for aircraft line workers, fewer lost work days and lowered compensation costs due to CTDs, and significantly improved turnaround time with key workers back on the job.

Point of Contact: Barbara Wright, Ergonomics Program Manager, NADEP Jacksonville
Telephone: (904) 542-2641, DSN 942-2641
Email: wrightbl@navair.navy.mil