

DoD Ergonomics Working Group NEWS



Issue 11, AUGUST 2002

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USACHPPM Ergonomics Program Consultation Productivity Doubled and Injury Risk Reduced: Anniston Hand Tools Study

Workers Try Ergonomic Tools

Does the use of ergonomically designed impact wrenches make a positive difference for workers? That's exactly what members of the CHPPM Ergonomics Program traveled to the Anniston Army Depot in Alabama to find out.

Workers on Anniston's tank disassembly line were asked to test new impact wrenches to see if they would improve productivity, decrease vibration exposure, decrease physiologic demands, and improve body posture.

Eleven workers volunteered to test 13 impact wrenches (9 new, 4 current). The impact wrenches varied in drive size (3/8", 1/2", 3/4", 1") and manufacturer (Chicago Pneumatic™, Snap on™, Blue Point™, Black & Decker™, and Ingersol Rand™).^{*} Workers were asked to remove nuts from a wheel hub of a tank, while CHPPM ergonomists examined vibration and exertion data and performed rapid upper limb assessments. Also, the workers were asked to use each of the impact wrenches for one week and then rate them in order of preference for each drive size category.

Ergonomic Tools a Success

The ergonomists found that combining proper tools with appropriate workstation setup has the greatest positive impact on worker performance and injury prevention. In this study:

- The amount of time the workers needed to remove the wheel hub nuts with the ergonomically designed impact wrenches was cut by almost 50%.
- The amount of vibration experienced by the workers for both the 3/8" and 1/2" drive impact wrenches was significantly decreased.

If you have questions about this study, or would like more information, contact Steve Chervak, USACHPPM ergonomist, at steven.chervak@apg.amedd.army.mil.

^{*}Use of trademarked names does not imply endorsement by the U.S. Army but is intended only to assist in identification of a specific product.