Construction Fact Sheet

Anchor Jacks

The Problem

- The process of installing anchors requires working on ladders or elevated work platforms.
- Anchors are then individually hammered into the ceiling holes using a hammer.
- The work involves forceful exertion, while working above the shoulders with workers repeatedly placing a large number of anchors.
- Repetitive, forceful, above-shoulder actions can cause fatigue and eventually lead to neck, arm and shoulder problems like tendonitis, bursitis, rotator cuff syndrome or hand-arm vibration syndrome.
- The shock transmitted from the tool to hands, arms, and shoulders can put workers at even greater risk of injury.

Anchor Jack
(Picture courtesy of Tebmar Products Inc.)

One Solution

- Overhead work can be reduced with an Anchor Jack, which is a telescopic tool that inserts an anchor into a pre-drilled hole and that has a sliding ‘hammering’ system.
- This tool reduces the amount of overhead forceful work traditionally required to do the job.
- Workers no longer need to raise their arms above their shoulders and hold them there while working on the ceiling.
- The extension lets workers keep a more neutral body posture.
- When arms are closer to the body and below the shoulders the risk of injury to the neck, shoulders, arms, and hands is reduced.
- In addition, work is conducted on the ground rather than on a ladder, scaffold, or lift.

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How It Works

- The telescoping Anchor Jack is used by first inserting an anchor into the head of the tool and then positioning it directly under a pre-drilled hole.
- A sliding ram, located below shoulder level and in front of the worker, is then used to 'hammer' the anchor into place.
- The tool is then repositioned by the worker at the next hole location.

Benefits

- Compared to the traditional method of placing ceiling anchors, this tool appears to reduce a number of ergonomic risk factors such as repeated forceful upper limb exertions in awkward postures.
- Workers have less chance of developing neck, shoulder, arm and hand injury because arms are kept below shoulders and muscle force and vibration exposure are reduced.
- Using this tool will also reduce exposure to concrete dust and debris.
- Workers still need to look up to position the Drill Jack, which may put some strain on the neck.
- Because the tool is used while the worker stands on the ground beneath the anchoring site, the use of ladders, scaffolding and other elevated work platforms is entirely eliminated.
- Productivity may improve because there are no ladders, scaffolds, or lifts needed.

For More Information

- Products related to this solution are described at www.cpwr.com/simple.html.
- Products may also be found on the internet using the following search terms: "anchor jack."
- Local contractor tool and equipment suppliers or rental companies may be another source of information on products.
- For general information on this solution, call the Infrastructure Health and Safety Association of Ontario at 416-674-2726 or 1-800-781-2726.

This fact sheet is adapted from Extension Poles for Powder-Actuated Tools Tip Sheet, which we would like to give credit to the following: Albers, James T., and Estill, Cheryl F. (2007) *Simple Solutions: Ergonomics for Construction Workers.* DHHS, National Institute of Occupational Safety and Health (NIOSH) Publication Number 2007-122. http://www.cdc.gov/niosh. To view the full Table of Contents for the *Simple Solutions* document, please visit: http://www.cpwr.com/simple.html. *Construction Solutions* is an online product of CPWR – The Center for Construction Research and Training. Research used to develop and maintain *Construction Solutions* was funded by CPWR, using grant U54 OH008307 from NIOSH. The contents are the sole responsibility of the authors and do not necessarily represent the official views of NIOSH. For more information, visit www.cpwr.com or www.cpwrConstructionSolutions.org