



Hammer drill support arm

Problem

A major construction company in Vancouver identified the need for improving the safety of workers suffering from back and shoulder muscle strain, typical musculoskeletal injuries (MSIs) in construction. These workers were spending a large amount of time using a 30-pound jackhammer or hammer drill to drill into concrete at shoulder level or higher.

Process

The company's safety officer approached WorkSafeBC and British Columbia Institute of Technology (BCIT) to develop a solution to the problem. The BCIT Technology Centre Automation & Electronics Group were awarded \$30,000 from WorkSafeBC's Research Secretariat to design a device that would reduce stress and fatigue on the worker.

Solution

The team at BCIT developed an articulating support arm that takes the weight of the hammer drill and allows the workers to concentrate their efforts against the work surface.

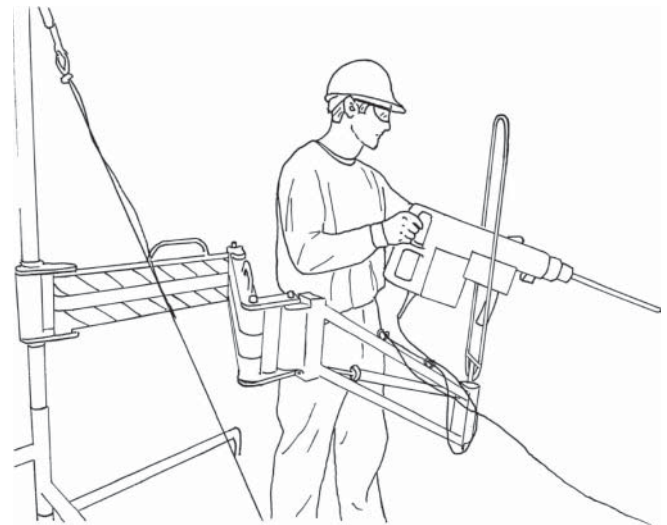
Features:

- Stand-alone tripod system or affixed directly onto scaffolding or shoring pole
- Horizontal range of 2.4 m (94.5")
- Vertical range of 1.4 m (56.5")
- Assembles in less than two minutes
- Disassembles into smaller, easily transportable pieces

By eliminating the force required to hold the hammer drill, the worker merely has to direct the hammer drill and apply force into the drilling surface.

Benefits to industry:

- Increased productivity by 100%
- Reduced energy expenditure
- Reduced force required by 90%
- Effective return to work (**RTW**) option



For more information, contact:
BCIT Technology Centre
Automation & Electronics Group
604 432-8761
<http://www.bcit.ca/appliedresearch/aem/projects/hammer.shtml>