

Safer Cabling with Ergonomic Tools

BY LARRY DYER

Whether you are the technician using the tool or the person responsible for providing the right tools for your cabling crew, ergonomic hand tools can provide healthy, long-term benefits for all. Selecting the right tool for the job not only increases efficiency but also reduces the risk of injury. Today, the workforce has certainly become more efficient, but are we working safer by selecting the proper tool for the task at hand?

Safety in the cabling field is much like insurance for your car. Everyone thinks, "I won't have an accident, so why do I need insurance?" The majority of technicians assume nothing will happen to them and they will remain safe and healthy. In reality, accidents and injuries do happen all too often. In an effort to reduce injuries on the job, some companies hire employees with titles such as "ergonomic specialist," "tool specialist" and "safety manager." Now more than ever, companies are addressing safety concerns. Insurance underwriters, carrying large insurance premiums on cabling projects, are dictating that safety is more than just "keeping your shoes tied."

A Perfect Fit

Management and technicians have increasingly become aware of the benefits of using ergonomic power tools. Muscle strain, over-reaching, awkward positioning, sudden jar-

ring and repetitive exertion can be avoided by simply choosing an ergonomically designed tool as opposed to a tool without the specialized design considerations. In order for an ergonomically designed hand tool to provide the proper protection, it must fit correctly. Several considerations come

Technician's Service Kit

IDEAL Industries Inc. offers a Technician's Service Kit, an assortment of essential installation and maintenance tools pre-packaged in a durable pouch.

The kit includes the IDEAL Punchmaster® II Punchdown Tool with 110 blade or an optional 66 blade. The Punchmaster Punchdown Tool features an impact-absorbing grip to reduce operator stress for insertion and cutting of cable terminations. In addition, the kit contains an electrician's cabinet tip screwdriver; electrician's scissors with a notch for stripping 19 and 23 gauge wire; a UTP/STP cable stripper with adjustable blades for nick-free strips of a variety of wires and cables; and a probe pick and spudger.

The kit's nylon pouch clips onto the technician's belts for easy access to these commonly used tools.

For more information, contact IDEAL at 800-435-0705 or visit www.idealindustries.com.



into play when choosing the proper tool. For instance, the handle of the tool must distribute pressure evenly across the palm of the hand. This allows the technician's wrist to remain straight. Additionally, the tool must be designed to provide the required force necessary to perform the task at hand. Minimizing hand and arm vibration, reducing repetitive motion, and avoiding awkward positions are all requirements in properly fitting tools. The selection and fitting process is easy as tools come in varied weights and designs to accommodate virtually every cable technicians' need. Cable cutters, crimpers and other ergonomically designed tools will make the job safer and easier to perform.

One example of how an ergonomic hand tool can increase productivity can be found in the use of battery-operated, ergonomic crimpers. For example, when two large conductors must be joined, they are often tied together with a crimp connector. Traditionally, the crimp connector is secured to the cables by using a large, bulky, manually operated crimping tool. These types of crimping tools have led to strains in workers' arms and shoulders. At the same time, they are much slower to work with. Technicians using the robotic battery-operated crimping tool greatly reduce discomfort, risk of injury and increase productivity. As one worker claimed, "I made 29 splices with just a squeeze of my trigger finger!" The technician is healthier and management is happy that so much is accomplished in so little time.

Understanding Repetitive Stress Injuries

A clear understanding of the potential for injury and what actually occurs creates awareness. This can cause individuals to alter their behav-

ior and avoid such occurrences.

Carpal tunnel syndrome (CTS) is the most common and disabling type of repetitive stress injury (RSI). CTS is the trapping of the median nerve in the wrist. The median nerve is one of many that control the muscles of the arm and hand. It also relays sensation from the skin on the back of the

thumb, index and middle fingers, and also half of the ring finger. Although the nerve can be damaged anywhere along its course, it is most commonly compressed at the point it enters the wrist. Here, the nerve lies in a tunnel, the floor of which is made up of the bones and tendons of the wrist, and the ceiling is a band made of tendon. If

Defy Gravity

According to the Bureau of Labor Statistics, more than 100,000 people suffer serious or fatal injuries from falls annually. In an effort to eliminate these preventable tragedies, Miller/Troll Training from Dalloz Fall Protection has developed a training video designed to help companies implement a comprehensive fall protection program.

The video entitled "Gravity Kills - Defy It" uses dynamic video footage of drop tests, on-screen graphics and animation to convey the information workers need to know about the importance of fall protection. Discussing all elements of the fall protection program, the video educates workers with detailed instructions in the safe use of full-body harnesses, anchorages, anchorage connectors and lanyards.

For more information about this training video, call 800-892-4078 or visit www.cdalloz.com.

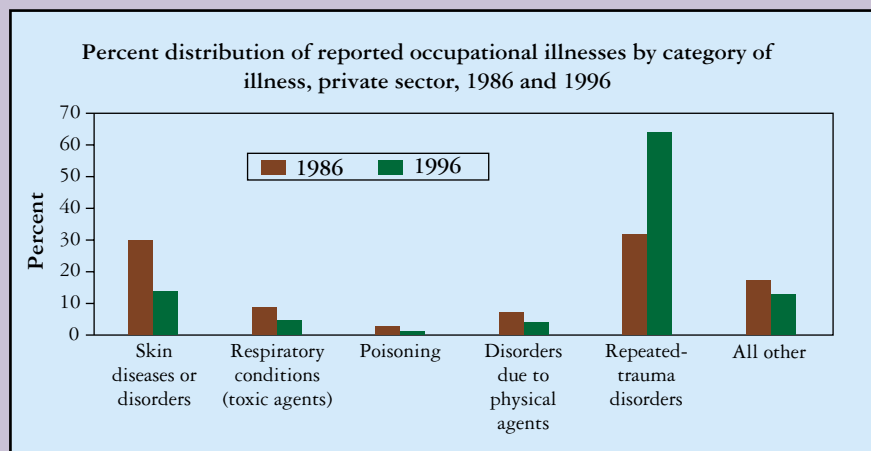


Repetitive Trauma Disorders

In 1996, repeated-trauma disorders accounted for close to two-thirds of reported occupational illnesses. The proportion of occupational illnesses due to repeated trauma was nearly twice as high as in 1986.

Disorders associated with repeated trauma were responsible for 64 percent of job-related illnesses in 1996, up from 33 percent 10 years earlier. In both years, repeated-trauma disorders were the most common type of occupational illness. Examples of disorders associated with repeated trauma are conditions such as carpal tunnel syndrome, noise-induced hearing loss and bursitis.

Skin diseases were the second most prevalent type of job-related illness in 1986 and 1996. However, they accounted for a much smaller proportion of illnesses in the latter year (13 percent) than in the earlier year (30 percent).



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this tunnel, the carpal tunnel, becomes compressed, the median nerve is trapped and symptoms, such as a tingling or numb feeling, occur in the hand. Shooting pains in the wrist or forearm and occasionally extending to the shoulder, neck, chest or foot, and difficulty clenching the fist or grasping small objects are other CTS symptoms. The pain is usually worse at night.

Cumulative trauma disorder (CTDs), occupational overrule injury (OOR), and carpal tunnel syndrome are all forms of work related musculoskeletal disorders. These types of injuries cost American companies millions of dollars a year in lost work time and workers' compensation claims.

A combination of three factors causes CTDs. They are force, repetition and bad posture. All three can result in sudden injuries such as sprains, or slow-developing injuries like CTS. The greatest risk occurs when a task or tool requiring a combination of force and precision is performed or used repeatedly without sufficient time for the body to rest.

It is critical that the technician remembers to keep the work-focus within their comfort range. Employees can reduce their risk of CTD by protecting their joints. Extending a joint until it simply can't go any farther and locking it should always be avoided. Working in such an extreme position not only feels awkward, but this action can over-stress muscles, pull tendons and reduce power. Keep the work within easy reach to avoid stretching, twisting and bending beyond a safe range of motion.

Training Is the Key and Safety Is for Everyone

Training is the key to success in managing safety in the cabling work environment. Attitude is also a key factor in maintaining a safe workplace. Safe-



Figure 1 The OEL Wolverine robotic cable cutter represents the trend toward safer ergonomic tooling. Unlike conventional manual cable cutters, the stress of repetition for the installer is eliminated with only the touch of a button.

ty is, and always will be, a team effort. Safety starts with each individual employee and concludes with everyone leaving at the end of the day to rejoin their families. Understanding the basics of ergonomics and the value in selecting a properly fitted tool will make you a much safer and efficient professional. Safety must be

the choice of every cabling professional as they are the ultimate benefactors. Ergonomic hand tools enable the technician to work smarter and not harder.



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Ergonomic Cutting and Crimping

A line of specialty hand tools for creating clean cuts on a variety of media, including fiber/Kevlar®, and for crimping or forming soft and hard cable with minimal squeezing effort is available from Xuron Corp.

Xuron Ergonomic Hand Tools feature the patented Micro-Shear® flush cutter, which employs bypass cutting action to produce a clean, square cut using less force. Designed for repetitive tasks, these ergonomic tools have soft rubber grips and use light-action return springs rather than awkward finger loops.

Suitable for many cutting, crimping and forming tasks, the hand tools include specialty head designs such as the Model 9180 for cutting Kevlar fibers; Model 440 for cutting plastic tubing, mylar, sheetmetal and soft wire; the Model 2196 Hog Ring cutter; and the Model 670 cut and crimp tool for reaching into high-density areas.

A complete catalog is available by calling 207-283-1401 or visiting www.xuron.com.

