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Mark Dennington demonstrates how the Dennington Safety Harness works after jumping from scaffolding. Dennington hangs on average for about 20 minutes at each showing, surpassing the five-minute mark where normal suspense trauma sets in with other harnesses.

New safety harness could change face of fall protection

DENNINGTON GEAR BOASTS ADVANCED TECHNOLOGY, ELIMINATES HAZARDS

BY LINDSEY K. ANDERSON | PHOTOS COURTESY OF DENNINGTON SAFETY GEAR, INC.

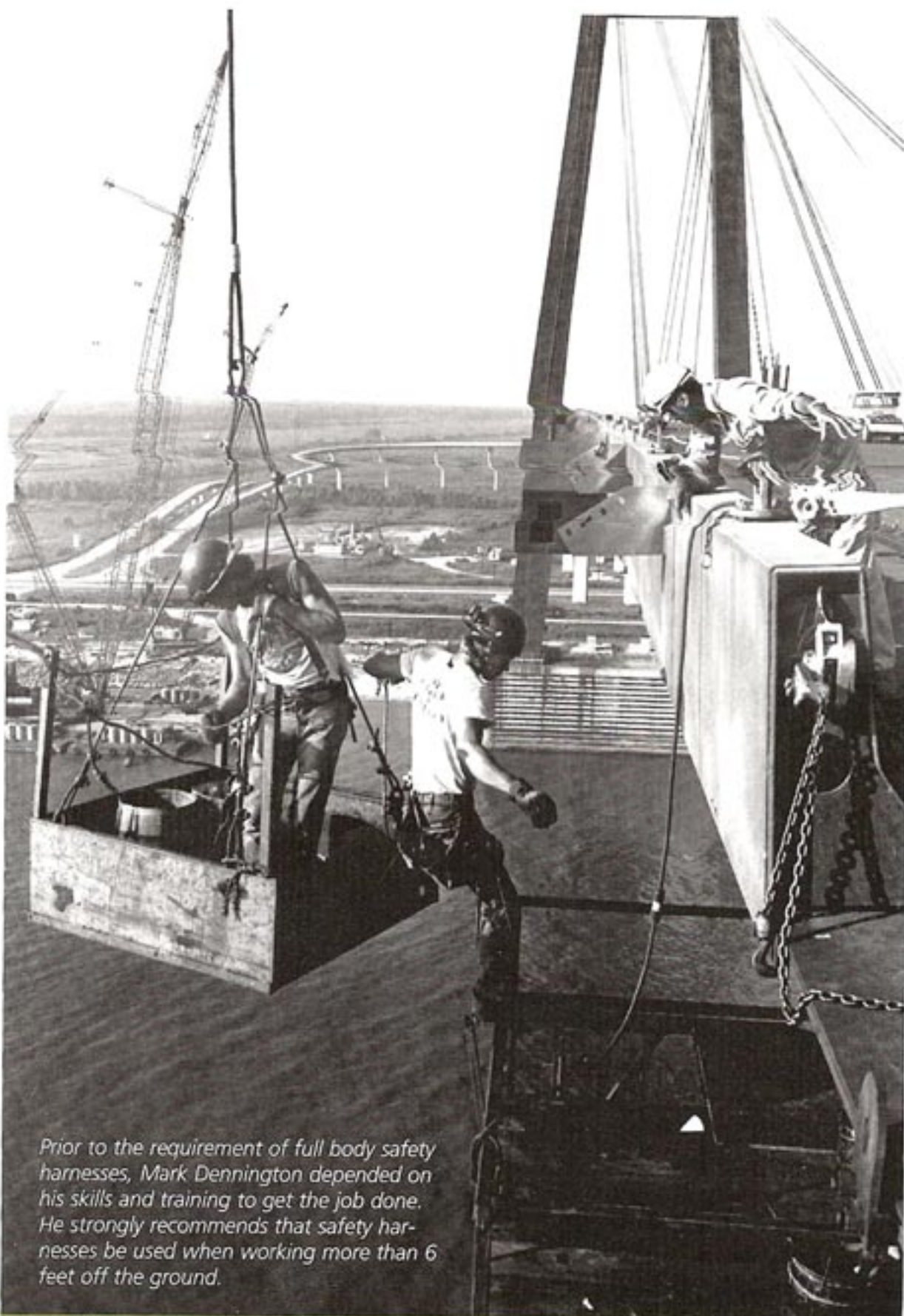
Due to new technology instilled in the Dennington Safety Harness, the fall protection equipment eliminates more than eight recognized hazards in the construction industry, including: falling more than 6 feet, the “slamming” effect, poor posture when falling, the loss of hardhat during a fall, and the replacement of the old EDD systems.

The harness works because of its three point balancing system that keeps the worker vertical in both fall and retrieval situations. When a worker falls, he or she is kept upright. Other benefits include a shorter fall distance that a worker has to endure while still complying with OSHA and ANSI standards, and the reduced amount of shock on the body due to the absorption of

downward inertia by the bungee shock absorbers on the harness.

About a year ago, Todd Bernardoni witnessed an accidental fall in Indianapolis, Ind., in which the worker was wearing the Dennington Safety Harness.

Todd Bernardoni has never witnessed a fall like he did back in February 2005. The safety advisor for



Prior to the requirement of full body safety harnesses, Mark Dennington depended on his skills and training to get the job done. He strongly recommends that safety harnesses be used when working more than 6 feet off the ground.

FEDERAL OSHA FALL PROTECTION STANDARD

29 CFR 1926.502 (d)(16)

Personal fall arrest systems, when stopping a fall, shall:

- (i) limit maximum arresting force on an employee to 900 pounds when used with a body belt;
- (ii) limit maximum arresting force on an employee to 1,800 pounds when used with a body harness;
- (iii) be rigged such that an employee can neither free fall more than 6 feet nor contact any lower level;
- (iv) bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet and,
- (v) have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

SOURCE: OSHA

Safety Management Group was onsite when an ironworker lost his balance, stumbled backward, and fell from the first floor of a new construction project. About 16 feet above ground level, the ironworker had been guiding a beam onto the floor when he fell off a previously secured beam. Thankfully, he was utilizing the proper fall protection measures at the time, and because of that, he never came into contact with the ground, was uninjured, and continued with work as if nothing had happened.

The Dennington Safety Harness, developed by Dennington Safety Gear, Inc., Shreveport, La., is making its rounds in the construction industry. At the Aerial Platform Safety conference in Houston back in November 2005, I first saw the harness at the Aerial Platform Safety conference in Houston back in November 2005. Mark Dennington, the brains behind the gear, set up scaffolding and a demonstration time to show just how the harness worked. Dennington, who sat at the top of scaffolding, panned the crowd and asked if we it was ready for his jump. With that, he slid off the end of the board, fell a handful of feet, and the Dennington Safety Harness caught and stabilized him. It was then that Dennington began his presentation of the gear, fielding questions from the crowd and throwing out OSHA guidelines and statistics all while hanging from the scaffolding. He hung upright for about 30 minutes, gestured with his hands, and asked if anyone had questions. One man raised his hand. "Can I try it out?"

The history of fall protection stems back more than 30 years, starting in 1970 when the Occupational Safety and Health Administration (OSHA) was formed. The original federal fall protection standards stated that the maximum fall distance was 6 feet, and workers had to be kept under 1800 pounds of force on the body. In order to accomplish this, Dennington said, manufacturers had to come up with an elongation deceleration device (EDD), or tear away lanyard. The lanyard gave workers 3.5 more feet of fall distance,

and it was noted that this was the only way possible to keep the force on the body under 1800 pounds. It wasn't until 1973 that elongation was added to fall protection standards, which in turn means that for the first few years of its existence, it was illegal to use the equipment that is allowed today.

The Dennington Safety Harness meets the original federal specifications by keeping the worker within a maximum fall distance of 6 feet, and under the limits of the fall force, without the extra 3.5-feet of elongation. Also, the Dennington Safety Harness has been calibrated for three different weight classes.

Due to the new technology instilled in the harness, it eliminates more than eight recognized hazards in the construction industry, including: falling more than 6 feet, the "slamming" effect, poor posture when falling, the loss of hardhat during a fall, and it also replaces the old EDD systems.

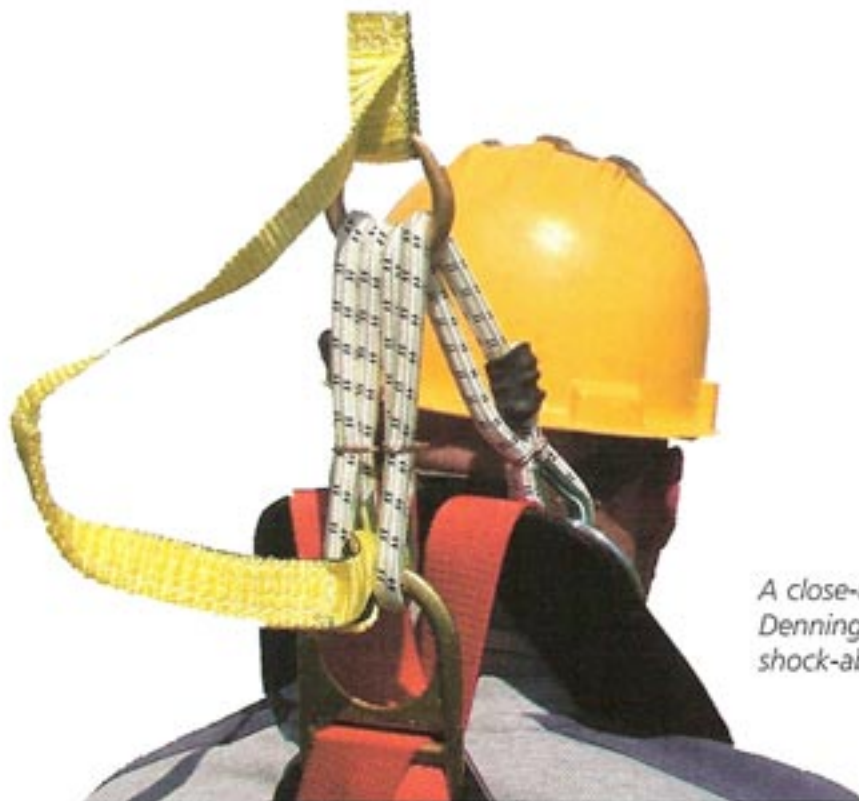
Mark Dennington believes that fall protection users are not properly warned of the hazards of elongation systems.

"The mentioned hazards are direct violations of the General Duty Clause," he said. "This is the federal law from which OSHA came into existence.

"For example, it is illegal to fall more than 6 feet and make contact with a lower level. To enable compliance with the federal standards, other manufacturers stated that tear away systems must be rigged or tied off from your chest or higher. These places rarely exist in the workplace. For example, if you have to tie from your chest or higher while using tear away EDDs, how can you use them in a raised platform legally? You can't."

According to the Bureau of Labor Statistics, in 2003-2004 there were 162,470 people who fell and made contact with a lower level. Falls are the leading cause of death and critical injury in the workplace.

"I cannot get over how many iron workers we lose every year to falls when every one of them is preventable," said Frank Migliaccio, executive director of safety and health for the Iron Workers union. "(The Dennington Safety Harness) is good equipment."



A close-up shot of the Dennington Safety Harness shock-absorbing system.

Migliaccio wrote a column in June 2005 for Ironworker magazine that focused on the Dennington Safety Harness. He said although the union itself did not endorse the product — because manufacturers would then bombard them with other goods to endorse — he felt the harness was such an excellent and efficient product he wanted to expose it to the public with an article.

"We had Mark (Dennington) come out and show all the contractors the product," Migliaccio said. "One of our VPs loves the product." The harness works because of its three point balancing system that keeps the worker vertical in both fall and retrieval situations. When a worker falls, he or she is kept upright. Other benefits include the shorter fall distance that a worker has to endure while still complying with OSHA and ANSI standards, and the reduced amount of shock to the body due to the absorption of downward inertia by the bungee shock absorbers on the harness. For more information on the product and how it could be revolutionary for fall protection, visit www.denningtonsafetygear.com.

But back to Bernardoni, the safety advisor for Safety Management Group. Although he has not witnessed a fall involving another safety or fall protection harness, Bernardoni can't compare one

product to another. He can, however, say that watching the test jumps Mark Dennington performed while showcasing his harness, and witnessing a real-time fall, the results were identical.

"The employee that fell had a controlled fall/arresting action," Bernardoni said. "I did not witness a sudden "shock" through the course of the fall."

For more information on the product, training, or the new Train-the-Trainer program, call (318) 635-5454 or visit www.denningtonsafetygear.com or www.ldlunitedunion.com.

Mark Dennington contributed to this article.

Injury and cost considerations involving falls and fall protection

- In 2003 there were **82,670 falls** to a lower level which resulted in lost time injuries.
- **20,280 of those falls** were in the construction industry
- In 2003 there were **354 fatalities** from falls to a lower level
- Preliminary figures indicate there were more in 2004.

SOURCE: Bureau of Labor Statistics