OSHA FATALFacts

No. 7 – 2014

Fall from a Telecommunications Tower

U.S. Department of Labor Occupational Safety and Health Administration www.osha.gov (800) 321-OSHA (6742)

INCIDENT SUMMARY

Incident type: ..... Fall
Weather conditions/Time of day: ..... Clear, warm, 70°F
Type of operation: ..... Telecommunications tower construction
Size of work crew: 4
Worksite inspection conducted: ..... Yes
Competent safety monitoring on site: ..... Yes
Safety and health program in effect: ..... Yes
Training and education for workers: ..... Inadequate
Occupation of deceased worker: ..... Tower climber
Age/Sex of deceased worker: 55/M
Time on job: ..... Over 10 years
Time at task: ..... 3 days
Time employed/classification (FT/PT/Temporary): ..... Not Available
Language spoken: ..... Not Available
Union/Non-Union: ..... Not Available

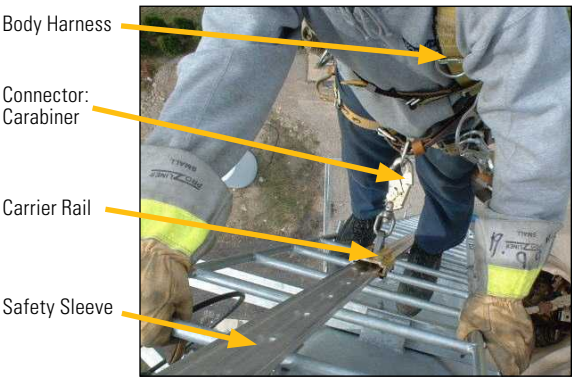

Figure 1: Components (parts) of a ladder safety device [fall protection equipment].

(Illustrates correct navel D-ring to safety sleeve connection for this specific device.)

BRIEF DESCRIPTION OF INCIDENT

A worker was climbing down a 400-foot telecommunications tower when he lost his footing. The *ladder safety device or system* (consisting of the carabiner, carrier rail, safety sleeve and body harness) he used failed to arrest his fall. The safety sleeve did not activate correctly to stop the worker's fall, the chest D-ring ripped out of the body harness, and he plunged 90 feet to his death.

Likely Causes of Incident

- The worker did not receive proper training on the ladder safety device he used.
- The pawl of the sleeve was defective. The defect prevented the device from activating properly to stop a fall within 2 feet (.61 meters) of its occurrence (29 CFR 1926.1053(a)(22)(iii)). This was identified in a safety notice issued after the incident and as a result of OSHA's investigation.
- The weight of the worker, his tools and equipment was more than the 310–pound rating of the body harness.
- The safety sleeve was connected to the harness at the chest D-ring instead of to the navel D-ring as specified by the manufacturer of the ladder safety device.
- The body harness was not a component of the manufacturer's ladder safety device.

You Have a Voice in the Workplace

The *Occupational Safety and Health Act of 1970* affords workers the right to a safe workplace (see OSHA's **Worker Rights** page, www.osha.gov/workers.html). Workers also have the right to file a complaint with OSHA if they believe that there are either violations of OSHA standards or serious workplace hazards.

How OSHA Can Help

For questions or to get information or advice, to report an emergency, report a fatality or catastrophe, or to file a confidential complaint, contact your nearest OSHA office, visit www.osha.gov or call our toll-free number at 1-800-321-OSHA (6742), TTY 1-877-889-5627. It's confidential.

More Information

OSHA standards and regulations:
www.osha.gov/law-regs.html
OSHA publications:
www.osha.gov/publications
OSHA-approved state plans:
www.osha.gov/dcsp/osp
OSHA's free On-site Consultation services:
www.osha.gov/consultation
Training resources:
www.osha.gov/dte
Compliance Assistance services:
www.osha.gov/complianceassistance

INCIDENT PREVENTION

- Ensure that workers who climb telecommunications towers to perform construction activities are protected from falls. For example, workers can use ladder safety devices meeting the criteria of 29 CFR 1926.1053(a)(22) or personal fall arrest systems (PFAS) meeting the criteria of 29 CFR 1926.502(d). A PFAS is used to arrest a worker in a fall from a *working level*. It consists of an anchorage, connectors, and a body harness, and may include a lanyard, a deceleration device, a lifeline, or a suitable combination thereof.
- Train workers to safely erect, use, maintain and disassemble the ladder safety device (29 CFR 1926.1060) or the PFAS (29 CFR 1926.503), before they begin working. Training should include how to identify hazards, inspect the equipment and cover all fall protection equipment needed for the job. For example, train employees on how to safely use positioning devices (29 CFR 1926.502(e)) when working on an elevated vertical surface.
- Never use defective equipment. Inspect ladder safety devices and PFAS (29 CFR 1926.502(d)(21)) for visible defects or damage, such as parts that are not working properly, wear, broken stitches or bad buckles—before each use, after any incident that could cause damage and as recommended by the manufacturer. Remove from service fall protection equipment *activated during a fall* and make sure that it is inspected by a *competent person* (29 CFR 1926.32(f)) and determined to be *undamaged* before using it again (29 CFR 1926.502(d)(19)). Inspect ladders for visible defects on a periodic basis, and after any incidents that could affect their use (29 CFR 1926.1053(b)(15)).
- Research the product's safety history before purchase. Register the equipment with the manufacturer to receive safety notices and recalls. In this case, the manufacturer issued a safety notice after the incident, instructing users to tie off to a shock absorbing lanyard, in addition to using the ladder safety device.
- Do not exceed the manufacturer's load rating for the ladder safety device and its components. Overloading the device can cause it to fail. Include the weight of the worker and any tools or equipment he or she may be carrying in the load calculation. Fixed ladder safety devices and related support systems used in the construction industry must be capable of withstanding a drop test consisting of an 18-inch drop of a 500-pound weight (29 CFR 1926.1053(a)(22)(i)).
- Connect the safety sleeve to the correct D-ring on the body harness as specified by the manufacturer (Figure 1). This varies with different manufacturers (for example, navel or chest D-ring). Incorrectly connecting the parts can prevent the equipment from working properly and hinder movement up and down the ladder.
- Ensure that the individual components (Figure 1) of the ladder safety device can be used together (are compatible). Components that are not designed to work together can lead to serious injuries or death. Employers must provide the right fall protection equipment for the job (29 CFR 1926.1051(b); 29 CFR 1926.501).

Note: *The described case was selected as being representative of improper work practices which likely contributed to a fatality from an incident. The incident prevention recommendations do not necessarily reflect the outcome of any legal aspects of this case. OSHA encourages your company or organization to duplicate and share this information.*

This Fatal Facts is not an OSHA standard or regulation and it creates no new legal obligations. The recommendations contained herein are advisory in nature and are intended to assist employers in providing safe and healthful workplaces. The Occupational Safety and Health Act of 1970 (OSH Act) requires employers to comply with safety and health standards promulgated by OSHA or by an OSHA-approved state plan. The requirements of OSHA-approved state plans can be reviewed by selecting the state's website at: www.osha.gov/dcsp/osp. The OSH Act's General Duty Clause, Section 5(a)(1), requires employers to provide employees with a workplace free from recognized hazards likely to cause death or serious physical harm.

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