Hoist Safety – Capstan Fatality File



Employee killed in fall from telecommunications tower

Employees #1 and #2 were being hoisted up a 500 ft telecommunications tower to replace antenna parts damaged when the tower was struck by lightning. They were being raised by a 1/2 in. nylon rope load line using a friction winch. Employee #2 was attached to the load line by a pelican clip that was attached to a seat strap D-ring by a small clevis on his tree saddle safety belt. The pelican clip had been run through a hand-tied loop in the end of the rope load line. Employee #1 was attached to the same loop by the center clip of a short three-clip rope safety lanyard, as were the replacement antenna parts. The remaining clips were attached to the waist D-rings on her full body harness. The rope load line had been routed up the tower through a 3 in.

McKissik top block pulley that had been hand-tied to the face of the tower by two pieces of 1/2 in. climbing rope, at a height of approximately 475 ft. The 1/2 in. nylon load line was then routed back down the tower and through a heel block pulley attached near the base. The free end was then wrapped around a cathead (capstan hoist) which had been bolted to the left rear wheel of a small pick-up truck, with the wheel jacked up off the ground. With the pickup truck idling, Employee #3 manually pulled on the free end of the rope, hoisting Employees #1 and #2 up the tower. The two employees were at a height of approximately 385 ft when the pickup's engine apparently stalled. When a coworker tried to restart the engine, friction was lost between the rope load line and the capstan hoist drum, causing Employees #1 and #2 to fall. They struck a guy at a height of about 210 ft and managed to ride it to the ground. Employee #1 was killed. Employee #2 suffered a fractured back, a fractured jaw, some fractured ribs, and other internal injuries. Employee #3 sustained severe rope burns to both hands from trying to stop the rope.

Sources: *Osha.gov/*