

INCIDENT FACTS

REPORT #:

71-242-2023

REPORT DATE:

July 17, 2023

INCIDENT DATE:

July 5, 2018

WORKERS:

20 years old

INDUSTRY:

Site Preparation Contractors

OCCUPATION:

Spotter

SCENE:

Excavation site

EVENT TYPE:

Caught in / between



The safety knuckle that detached from the quick coupler.

[For a slideshow version, click here.](#)



This narrative was developed to alert employers and workers of a tragic incident and is based on preliminary data ONLY and does not represent final determinations regarding the nature of the incident or the cause of the injury. Developed by WA State Fatality Assessment and Control Evaluation (WA FACE) Program and the Division of Occupational Safety and Health (DOSH), WA State Dept. of Labor & Industries. The WA FACE Program is supported in part by a grant from the National Institute for Occupational Safety and Health (NIOSH grant# 5U60OH008487). For more information visit www.lni.wa.gov/safety-health/safety-research/ongoing-projects/work-related-fatalities-face.

Spotter Loses Fingertips in Excavator Quick Coupler

SUMMARY

A 20-year-old worker lost three fingertips from his right hand when a quick coupler connecting a bucket to an excavator failed. He had been with the employer for 5 months, working as a ground person.

The young worker was part of a crew setting up a shoring system. He was spotting for an operator who was using the bucket of a rented excavator to pound in a steel piling. When finished, the operator lowered the bucket to the ground. Just then, the spotter noticed the safety knuckle of the quick coupler on the ground. It had detached from the coupler where it connected the bucket to the excavator. He picked up the knuckle and moved in front of the bucket where he used his hands to feel around inside the coupler and tried to reattach the knuckle. Suddenly, the wedge of the coupler locked into place crushing his fingers between the wedge and the bucket. The incident evolved into a 3-hour, multiple agency technical rescue. The spotter lost the tips from the first three fingers of his right hand.

Investigators found:

- The operator inspected the quick coupler earlier that day, confirmed the wedge was locked in place and there were no hydraulic leaks, and used the excavator for seven hours prior to the incident.
- The operator nor anyone else on site heard a detachment alarm when he lowered the bucket or when the safety knuckle detached from the coupler.
- No evidence of exactly what caused the knuckle to detach.
- The spotter did not communicate to the operator when he attempted to reattach the knuckle.

REQUIREMENTS

The employer was not cited for violating safety standards. However, the following rule can prevent workers from being struck and killed by falling attachments.

- You must not permit any employee underneath loads handled by lifting or digging equipment. See [WAC 296-155-655\(5\)](#)

RECOMMENDATIONS

FACE investigators concluded that to help prevent similar occurrences:

- Train equipment operators and workers on the ground to:
 - Never place hands inside the quick coupler or anywhere near the linkage mechanism while the hydraulic system is pressurized or the machine is on.
 - Never attempt to repair failed equipment and to notify site supervisors when issues with equipment are suspected or noticed.
 - Always communicate intentions and wait for confirmation before proceeding.
- Use an excavator-mounted pile driver instead of a bucket to drive piles.



The wedge lock of the quick coupler that crushed the worker's fingers.