

Toolbox talk

Year-round

5 minutes

Crane Hand Signals Toolbox Talk

Use OSHA's Standard Method, one qualified signal person at a time, and communication the operator understands. Anyone may give a stop or emergency-stop signal. If communication is lost or unclear, stop safely. Reading this talk does not qualify anyone as a signal person.

English safety review completed by Ben Sleeman, Credentialed safety reviewer; professional US construction-Spanish review completed by Ben Sleeman, Credentialed safety reviewer.

READ ALOUD (ABOUT 5 MINUTES)

This talk is awareness training, not signal-person qualification. For construction crane and derrick operations covered by OSHA Subpart CC, use the Standard Method, use one qualified signal person at a time, and make sure the operator understands every signal. Anyone who sees a safety problem may give stop or emergency stop. If communication is lost or unclear, the operation stops safely. Reading this talk does not authorize anyone to take the signal-person role.

The consequences extend beyond the operator and signal person. BLS counted 297 crane-related occupational deaths from 2011 through 2017. Just over half involved a worker being struck by an object or equipment, and 43% occurred in private construction. Those are historical period totals, not a current annual rate, but they show why an unclear command around a moving boom, block, or load cannot be treated as a small mistake.

A signal person is required when the operator cannot fully see the point of operation, when the operator's view in the direction of equipment travel is obstructed, or when the operator or person handling the load determines that site-specific safety concerns require one. Before movement begins, identify the signal person, the signaling method, the load path, the exclusion area, and the stop plan. Signals and their means of transmission must suit the actual site conditions.

For hand signals, OSHA's Standard Method in Appendix A is the default. The chart must be posted on the equipment or conspicuously near the hoisting operation. Stop uses one arm extended horizontally, palm down, moving back and forth. Emergency stop uses both arms in that position. Hoist uses the forearm and index finger pointed upward in small circles; lower points the finger downward in small circles. Raise boom and lower boom use a horizontal arm with the thumb up or down. Swing points in the direction of travel. Learn these from the chart and practical instruction; do not improvise them from memory.

Only one person gives routine movement signals to a crane at a time. The exception is stop: anyone who becomes aware of a safety problem must alert the operator or signal person with stop or emergency stop, and the operator must obey that signal regardless of who gives it. The operator also has authority to stop and refuse to handle a load when safety is in question until a qualified person determines that conditions are safe.

Communication must remain available throughout any operation requiring signals. If line of sight, radio, or another signaling path is interrupted, the operator must safely stop the operation until communication is restored and a proper signal is given and understood. Never guess what a partial motion meant. Directions are given from the operator's perspective. If one signal person is communicating with multiple cranes, each signal must clearly identify which crane it controls.

Qualification is more than knowing a few gestures. Before anyone gives signals, the employer must ensure that person has been evaluated by a qualified third-party evaluator or by the employer's qualified evaluator. Documentation must be available at the site and identify the types of signaling covered. An employer evaluation is not portable to another employer. The person must know the signals and applicable rules, apply them competently, understand basic crane operation and limitations-including load swing, stopping, and boom deflection-and pass an oral or written test plus a practical test.

A good signal does not make a dangerous body position safe. The signal person needs a clear view, a clear escape path, and a position outside fall, pinch, and crush zones. Ordinary work motions must not resemble commands. No one should stand between a moving load and a fixed object. Before today's lift, point out the qualified signal person, the posted chart, the communication method, and the safe-stop response. When in doubt, stop.

INCIDENT EXAMPLE

Documented OSHA accident - Accident Summary 112761.015, event date July 25, 2018: On a highway-expansion project, a construction superintendent was helping untangle hydraulic hoses from a crawler crane's main hoist rope while standing with his back to the operator. OSHA's summary states that the worker's hand movement was misinterpreted as a signal. The operator raised the main hoist block, trapping the worker's hand between the sheave and hoist rope. Four fingers were amputated. The summary does not identify a signal-person qualification finding or establish a regulatory root cause. It does document the danger of treating ordinary movement as a crane command.

CONTROLS TO COVER

- Before movement, designate the qualified signal person and agree on the signaling method, load path, exclusion area, and emergency-stop response.
- Use OSHA's Standard Method and the posted chart. Use nonstandard signals only when the standard method is infeasible or does not cover the operation, with prior agreement among the signal person, operator, and lift director.
- Position the signal person where communication, the point of operation, and an escape path remain clear, outside fall and pinch zones.
- If visual, radio, or other communication is interrupted or unclear, stop safely until it is restored and a proper signal is understood.
- Make sure everyone knows that any person may give stop or emergency stop, while only one qualified signal person gives routine movement signals at a time.
- Verify that type-specific qualification documentation is available at the site. A toolbox talk, wallet card, job title, or years of experience alone does not meet the evaluation and testing requirements.

CREW DISCUSSION

1. Who is the qualified signal person for today's operation, and what type of signaling does the documentation cover?
2. Where could line of sight or radio communication fail during the load path, and what is our safe-stop response?
3. Where can the signal person stand with a clear view and escape route without entering a fall, pinch, or crush zone?

QUICK QUIZ

1. Who may give a stop or emergency-stop signal?
Anyone who becomes aware of a safety problem, and the operator must obey it regardless of who gives it.
2. What happens if the operator and signal person lose communication?
Operations requiring signals stop safely until communication is restored and a proper signal is given and understood.
3. Does completing this toolbox talk qualify someone as a signal person?
No. Qualification requires an appropriate evaluator, documented knowledge and competence, an oral or written test, and a practical test.

Reference: 29 CFR 1926.1417(y), 1926.1418, 1926.1419-1926.1422, 1926.1428, and Appendix A to Subpart CC - BLS counted 297 crane-related occupational deaths from 2011 through 2017. Just over half involved a worker being struck by an object or equipment, and 43% occurred in private construction. These are period totals, not a current annual rate.

Sources: OSHA: 29 CFR 1926.1419 Signals-general requirements; OSHA: 29 CFR 1926.1428 Signal person qualifications; OSHA: Appendix A Standard Hand Signals; OSHA: 29 CFR 1926.1422 Hand signal chart; OSHA: Signal Person Qualification Fact Sheet; OSHA Accident Summary 112761.015; BLS: Fatal Occupational Injuries Involving Cranes, 2011-2017; NIOSH: Preventing Struck-by Injuries in Construction-Lift Zone Safety

Toolbox Talk Sign-In Sheet

Attendance record for the talk above. Reviewers (OSHA, GC, ISNetworld/Avetta) expect topic, date, presenter identity, and attendee signatures.

Project / location

Date and time

Topic: Crane Hand Signals Toolbox Talk

Presenter (print)

Presenter signature

NAME (PRINT)	COMPANY / TRADE	SIGNATURE

Concerns raised and follow-up actions (owner, due date)