

The following copyrighted samples are provided as a service for your review only. Copying, saving, lending, posting online or any general use of these files other than for the purpose provided is unlawful and fiscal compensation will be sought after.

**For Review Only
No Copying
No Saving
No Lending
No Posting Online**

*Respect Copyright Laws. Respect our company.
- Safety Provisions, Inc. | info@safetyprovision.com*



Rigging/Signal Person Training





Crane communication:

Signaling is an important part of crane operation, but is often not treated with the respect it deserves.

Signalers must be used whenever:

- Operator cannot see the load
- Operator cannot see the load's landing area
- Operator cannot see the path of travel of the load or of the crane
- Operator is far enough away from the load to make the judgment of distance difficult
- The crane is working within a boom's length of the approach limits to powerlines or electrical equipment.

Where loads are picked up at one point and lowered at another, two signalers may be required – one to direct the lift and one to direct the descent.

Hand signals should be used only when the distance between the operator and the signaler is not great and conditions allow for clear visibility.

Telephone or radio communications between operator and signaler can be extremely effective.



Who can give the hand signals?

A person who is qualified to give crane signals to the operator. This person must be trained and evaluated through a written and practical test.

*There should be only one designated signaler at a time. Never start an operation without everyone who is involved in the pick knowing who the designated signal giver is.

If signalers are changing between each other, the one in charge should wear a clearly visible badge of authority. This could be a colored hard hat; highly visible gloves; or a unique vest

***Question on written test:** How many signal persons should be designated to give hand signals to the operator for normal lifts?

a. One primary and one backup

b. Only one

d. All those who are handling the load can give hand signals.

e. Doesn't matter.

(Note: This question is sometimes marked wrong because it is sometimes necessary to have a second signaler during blind picks.)

R
I
G
I
N
G

T
R
A
I
N
I
N
G

Responsibilities of Signaler

- Be in clear view of the crane operator.
- Have a clear view of the load and the equipment.
- Keep persons outside the crane's operating area.
- Never direct a load over a person.

Hand Signals

What should you do when in charge of signaling?

The signaler must:

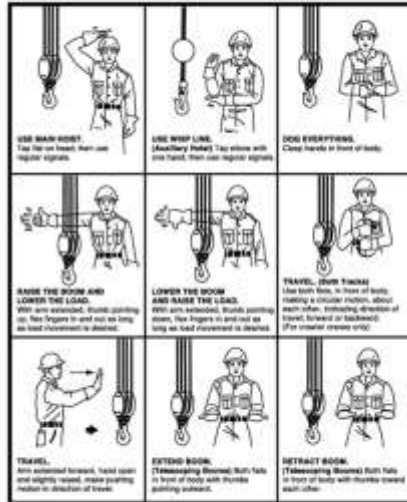
Be in clear view of the crane operator.

Have a clear view of the load and the equipment.

Keep persons outside the crane's operating area.

Never direct a load over a person.

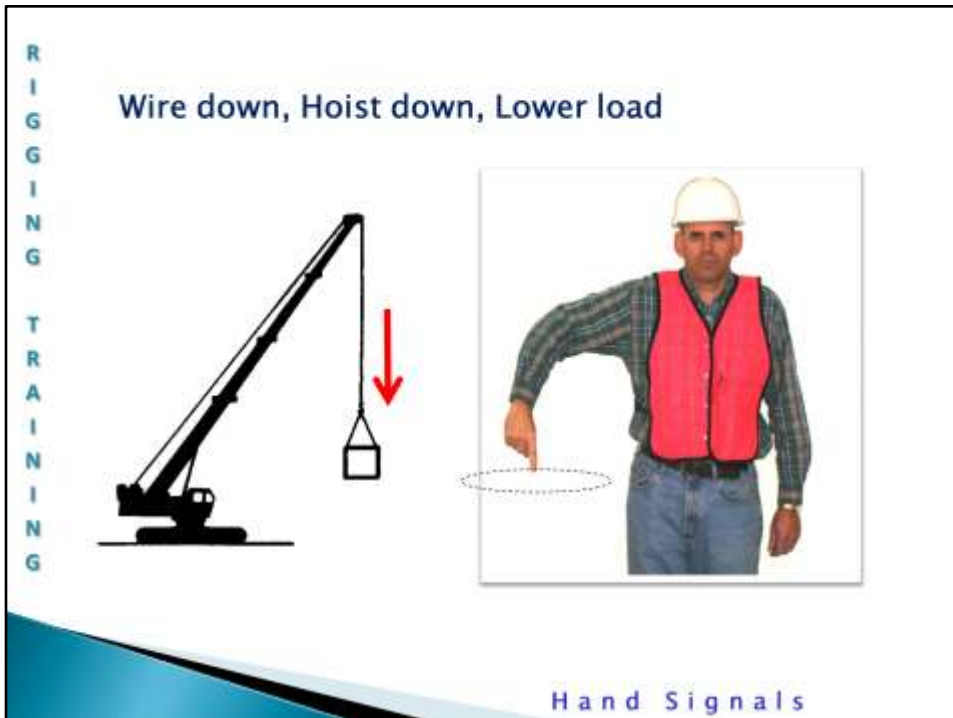
Hand Signal Chart



Hand Signals

Hand signal chart:

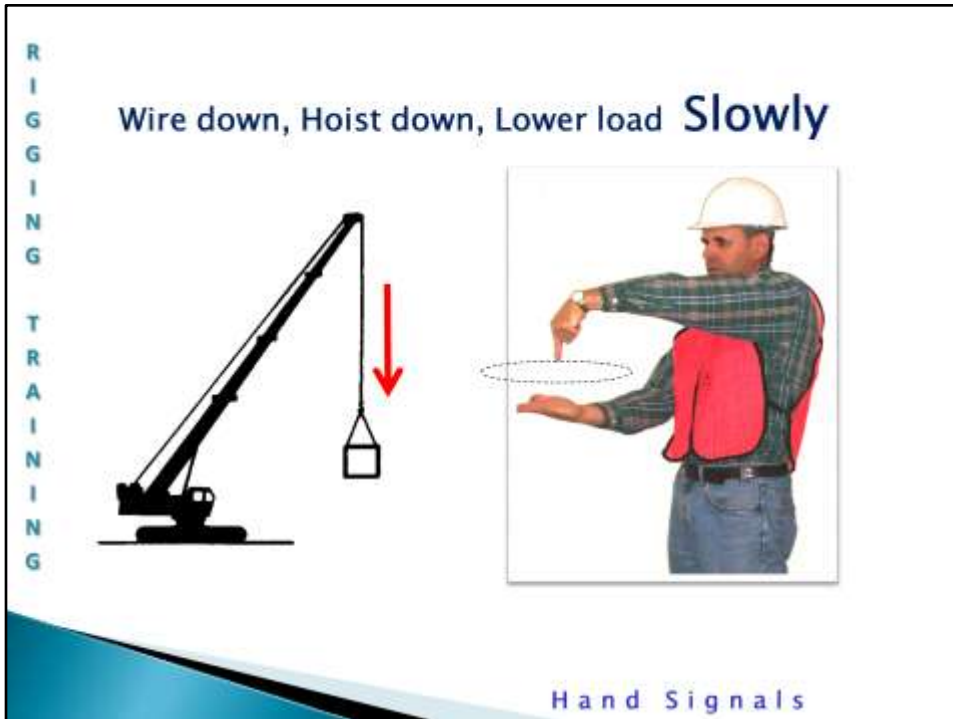
There should be a hand signal chart posted in the area of operation



Wire Down, Hoist Down, Lower Load:

The “wire down” signal is made by pointing your index finger down and moving it in a wide circular motion.

Remember, the crane operator needs to be able to distinguish between all of the different hand signals. Often you will see a signal person point his hand down and rub his fingers together like he a chef seasoning some hot dish in the skillet. If he has a glove on and the lighting is not optimal it would be very difficult to know that he wanted you to wire down.



Wire Down, Hoist Down, Lower Load *Slowly*:

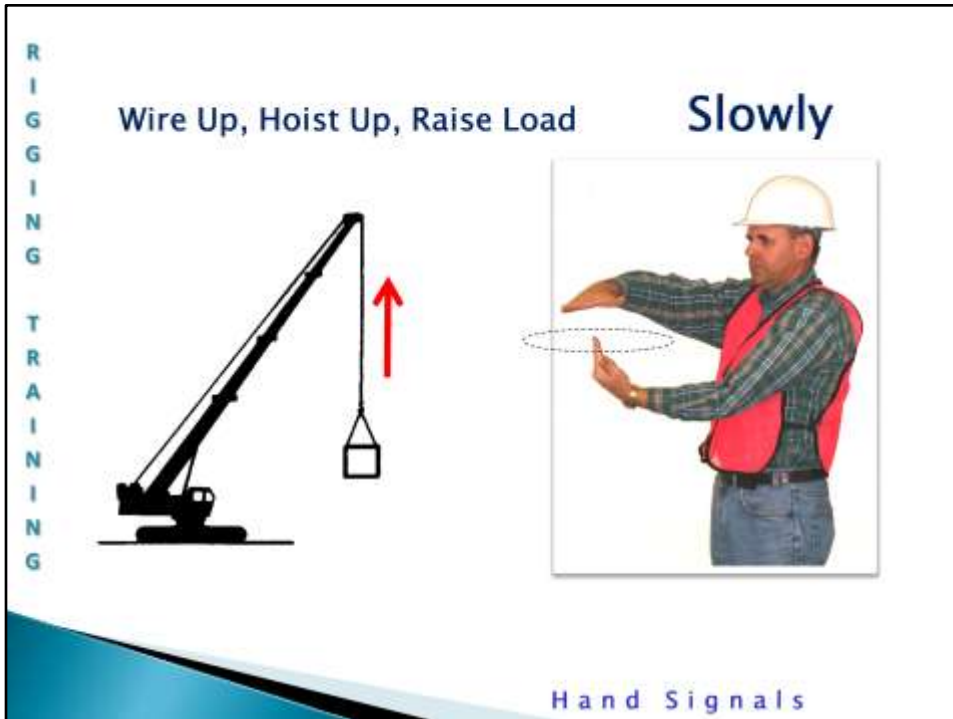
The “wire down slowly” signal is made by pointing your index finger down and moving it in a wide circular motion above the palm of your other hand.

Again, the signal is clear and can be seen from a distance.



Wire up, Hoist up, Raise load:

The “wire up” signal is made by pointing your index finger up and moving it in a wide circular motion.



Wire up, Hoist up, Raise load, *Slowly*:

The “wire up slowly” signal is made by pointing your index finger up and moving it in a wide circular motion below the palm of your other hand.



Boom up:

The "boom up" sign is given by extending your arm with the fingers in and the thumb pointing up.



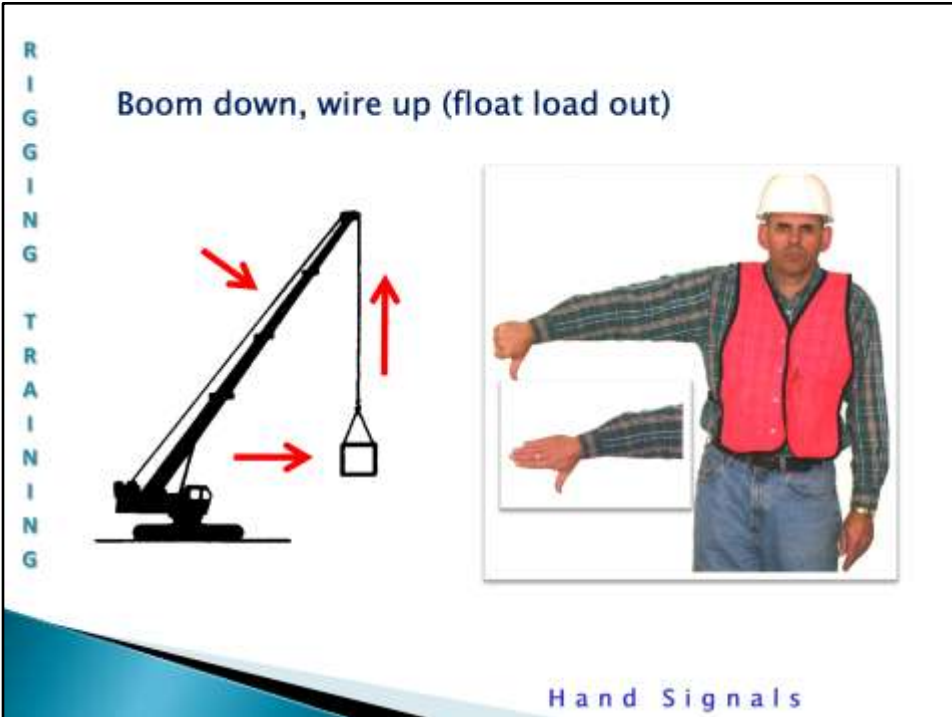
Boom down:

The “boom down” sign is given by extending your arm with the fingers in and the thumb pointing down.



Boom up, wire down (float load in):

This is a useful signal that tells the operator to float the load in by booming up and wiring down simultaneously.



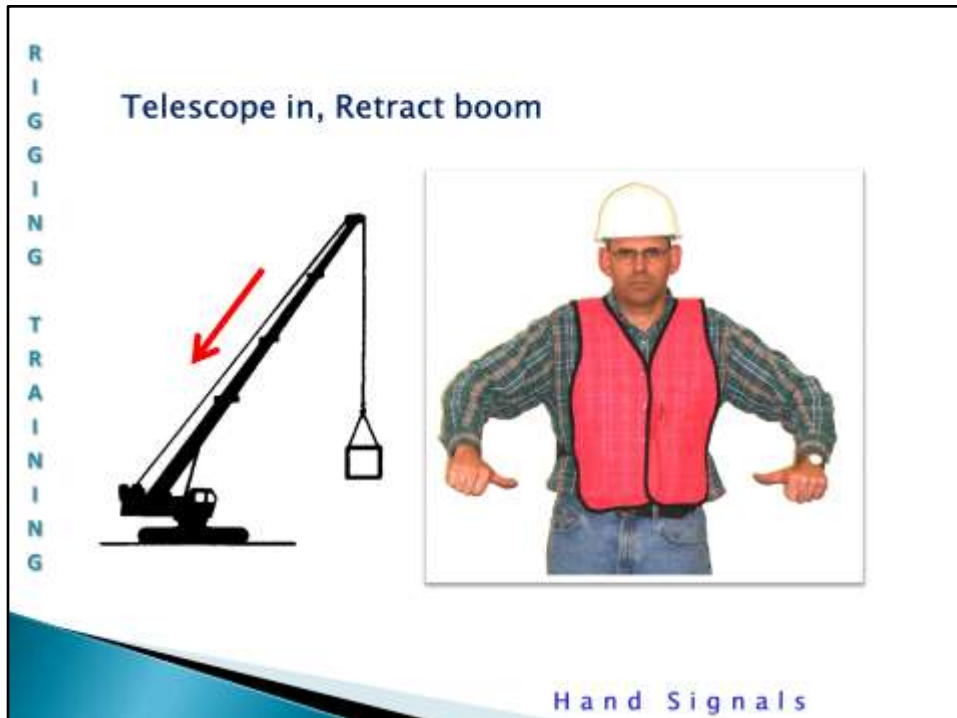
Boom down, wire up (float load in):

This is a useful signal that tells the operator to float the load in by booming down and wiring up simultaneously.



Swing, slew, rotate crane:

The sign for “swing” is given by pointing with one or both arms in the direction you want the load to travel. Be sure to keep your thumb tucked so as not to look like you want the operator to boom up.



Telescope in, Retract boom, Knuckle in:

The sign for “telescope in” is holding both hands out with thumbs pointing in. This sign can also be used on non-telescopic knuckle cranes for “knuckle in”.

In essence it does the same thing. It moves the load toward the operator.



Telescope out, Extend boom, Knuckle out:

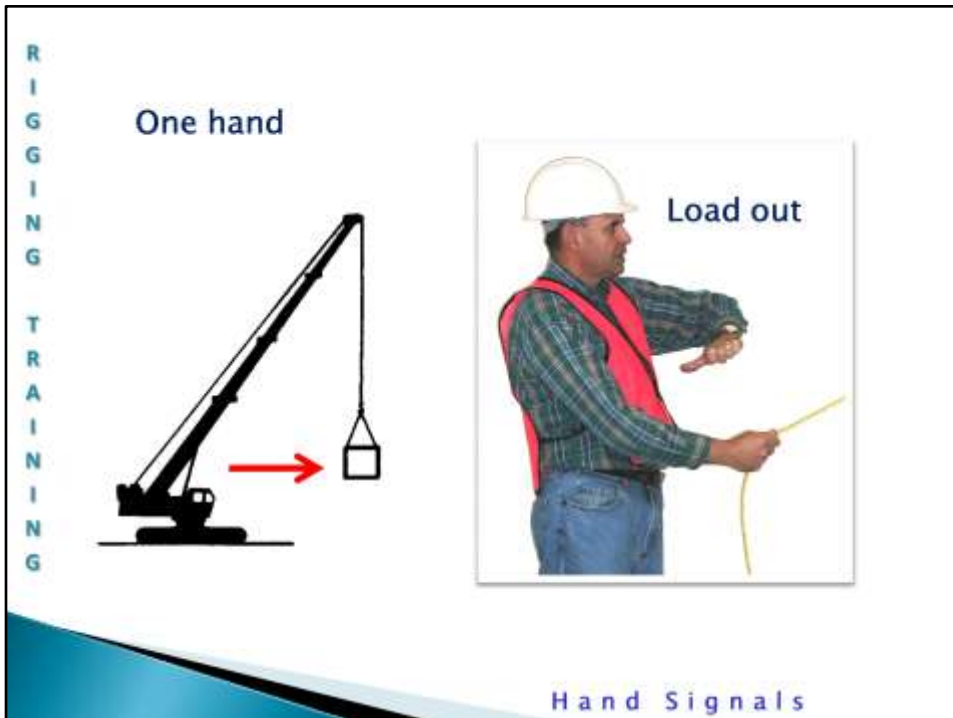
The sign for “telescope out” is holding both hands out with thumbs pointing out. This sign can also be used on non-telescopic knuckle cranes for “knuckle out”.

In essence it does the same thing. It moves the load away from the operator.

*There are three ways the operator can increase the radius of the crane: Boom down; Telescope out; and on articulating cranes (knuckle cranes), knuckle out, or jib out.

***Question on written test:** Which of these signals could you give to have the operator increase the load radius?

- a. Boom down
- b. Telescope out
- d. Knuckle out
- e. All of the above**



One handed load out:

This is the sign for signaling riggers that only have one hand free because they are active in controlling the load with the other hand.

The sign is made by pointing the thumb in the direction you want the boom to telescope or the load to move.

Load out: point your thumb toward yourself.



One handed load in:

Load in: point your thumb toward yourself.



Stop:

The stop is given by extending your arm and bringing it across your body in one quick motion.

(It is not recommended that you use the common stop signal of clenching your hand and raising it above your head. This is not an easy signal to see from far distances or in dim lighting.)

Although, this is not the emergency stop signal, the operator should obey it no matter who gives it.



Emergency stop:

The “emergency stop” signal is given by crossing your arms in front of your and bringing them out to your sides. This can be done several times in succession until the operator does indeed stop.

*This signal is internationally know and can be given by anyone who might notice something amiss.

***Question on written test:** Who can give the crane operator an emergency stop signal?

- a. The designated signal person.
- b. The site supervisor.
- d. The site safety manager.
- e. Anyone on site.**

R
I
G
G
I
N
G

T
R
A
I
N
I
N
G

Dog everything

Means:

- Take hands off of controls**
- Wait for further signals**
- Chill, relax**



Hand Signals

Dog everything:

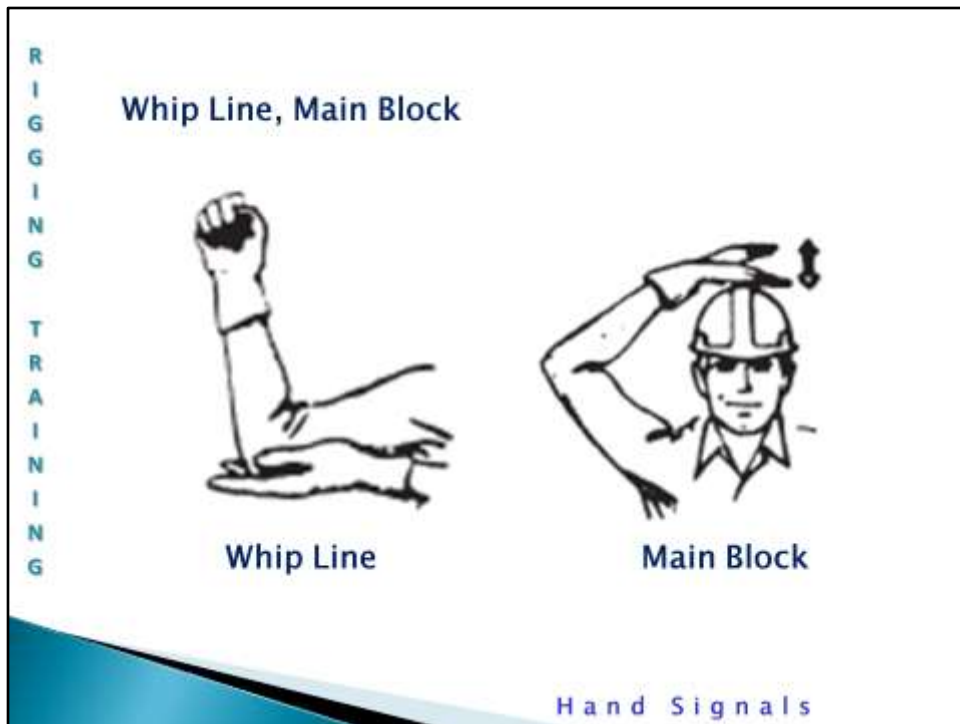
This is a useful signal that tells the operator to take his hands off the controls and wait for further directions.

This signal is a carry over from the friction crane days where they would use a pin (dog or pawl) to secure the rotation, boom and winch, holding everything "as is" till further notice.



Knuckle boom:

On knuckle cranes, you may need to show which boom you want to have moved up.



Whip Line, Main Block:

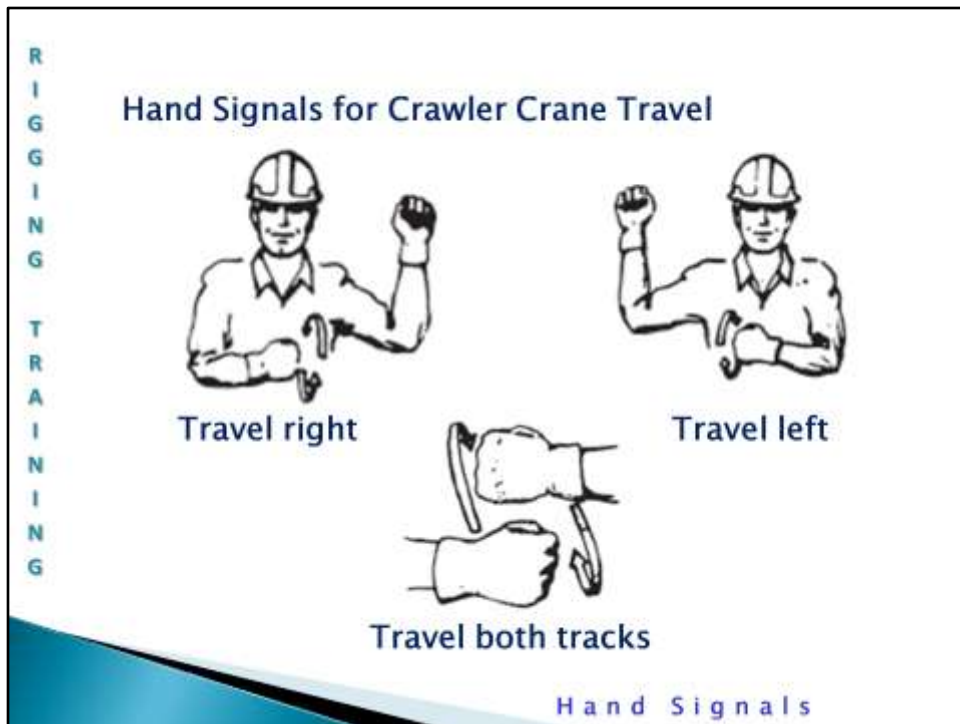
These two signals are to designate which hoist line you are giving signals for.

***Whip Line:** Make this signal by holding your right arm in a square and tapping the elbow with the left hand.

Main Block: Make this signal by tapping the top of your hard hat.

***Question on written test:** What do you do to designate to the operator you want him to use the whip line rather than the main hoist line?

- a. Hold your left elbow out and tap on it with your right hand
- b. Tap on your hard hat
- c. Hold up 2 fingers
- d. Hold up 1 finger

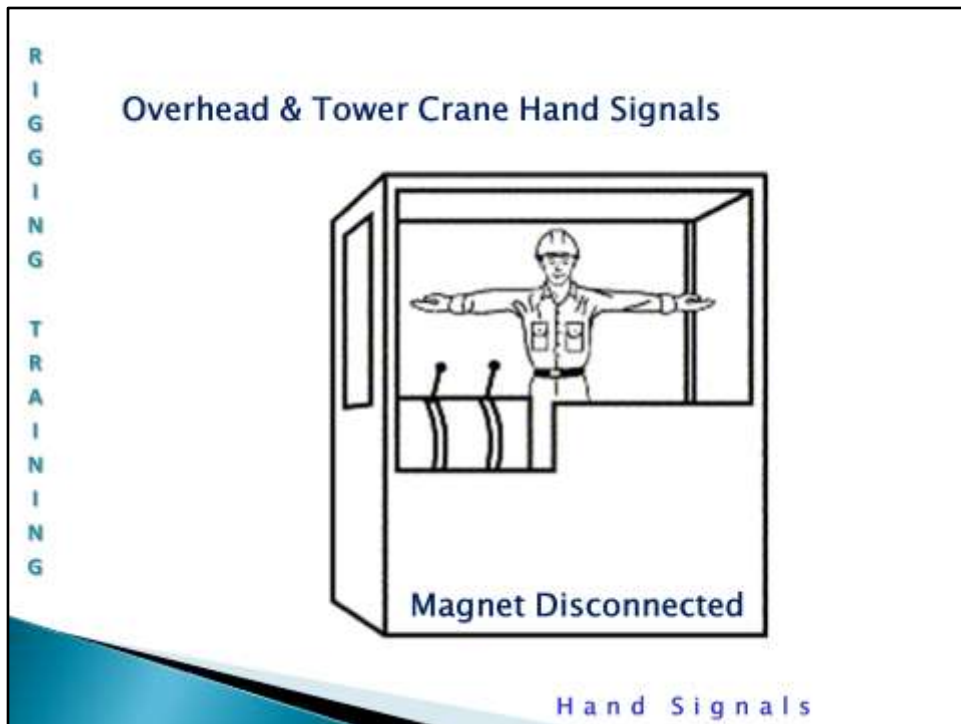


Hand signals for crawler cranes:

Travel left track: Hold your left arm to the square with your hand closed while turning your right arm in front of you in a circular motion in the direction you want the crane to travel (forward or backward)

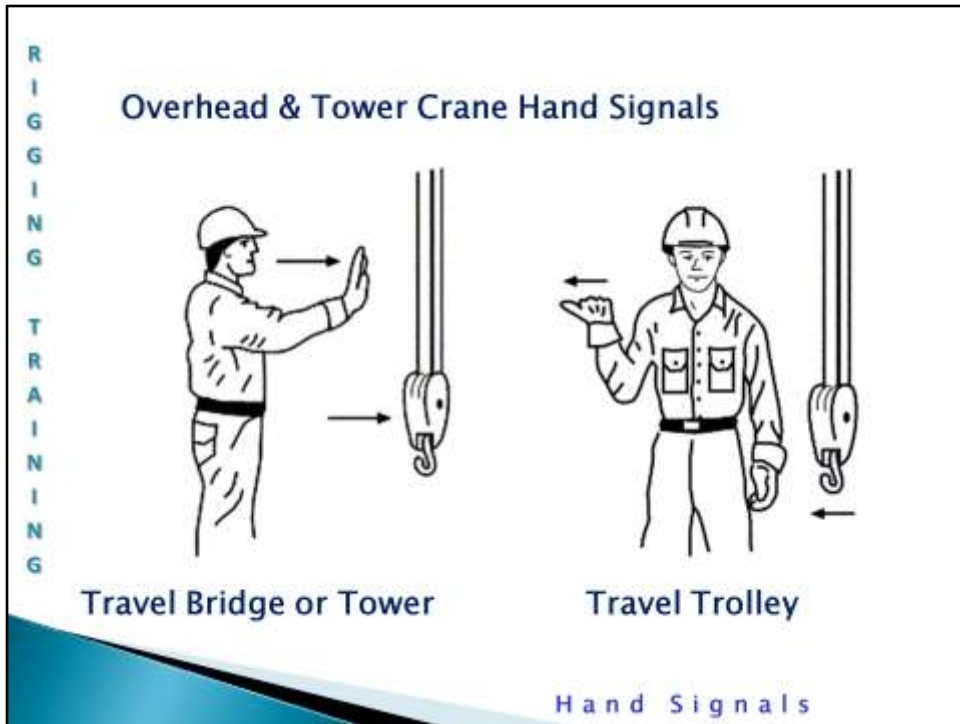
Travel right track: Hold your right arm to the square with your hand closed while turning your left arm in front of you in a circular motion in the direction you want the crane to travel (forward or backward)

Travel both tracks: Turn both arms in front of you in a circular motion in the direction you want the crane to travel (forward or backward)



Overhead Crane Hand Signals:

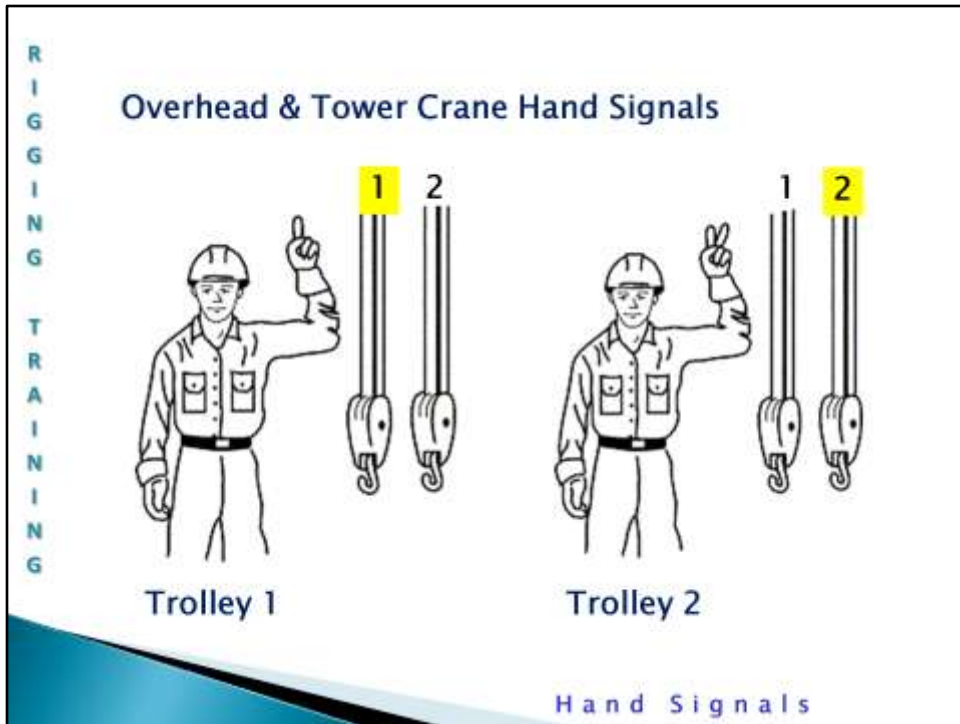
Magnet disconnected: Make this signal by holding both hands outstretched with palms up.



Overhead Crane Hand Signals:

Travel bridge or tower: Stand behind the load and signal like your pushing in the direction of desired travel.

Travel trolley: Point your thumb in the direction of desired travel.



Overhead Crane Hand Signals:

For overhead bridge cranes that have multiple trolleys on the same bridge, the signal person needs to designate Trolley #1 or Trolley #2 before giving the hand signal for the function.

R
I
G
G
I
N
G

T
R
A
I
N
I
N
G

Voice Signals



Function & Direction:
(such as hoist up,
boom up, etc.)

Distance, Speed

Function:
Stop command

Hand Signals

Voice Signals:

29 CFR 1926.1421 states:

- (a) Prior to beginning operations, the operator, signal person and lift director (if there is one), must contact each other and agree on the voice signals that will be used. Once the voice signals are agreed upon, these workers need not meet again to discuss voice signals unless another worker is added or substituted, there is confusion about the voice signals, or a voice signal is to be changed.
- (b) Each voice signal must contain the following three elements, given in the following order: function (such as hoist, boom, *etc.*), direction; distance and/or speed; function, stop command.
- (c) The operator, signal person and lift director (if there is one), must be able to effectively communicate in the language used.

R
I
G
G
I
N
G

T
R
A
I
N
I
N
G

Voice Signals



“Boom up”
“Slowly”
“Boom, Stop!”

Hand Signals

Voice Signals:

For example, if you wanted the operator to boom down slowly, then you would say:

*“Boom....Down, slowly....Boom stop”

***Question on written test:** For verbal communication to have the operator boom down slowly and stop you say:

- a. Slowly...Boom Down...Boom Stop
- b. Boom...Down Slowly...Stop
- c. Boom down...Slowly...Boom Stop**
- d. Boom Down...Slowly...Stop

R
I
G
G
I
N
G

T
R
A
I
N
I
N
G

Voice Signals




Operator's radio must be a hands free device.

Hand Signals

Voice Signals:

***29 CFR 1926.1420 Signals—radio, telephone or other electronic transmission of signals.**

- (a) The device(s) used to transmit signals must be fully charged and tested on site before beginning operations to ensure that the signal transmission is effective, clear, and reliable.
- (b) Signal transmission must be through a dedicated channel, except:
 - (1) Multiple cranes/derricks and one or more signal persons may share a dedicated channel for the purpose of coordinating operations.
 - (2) Where a crane is being operated on or adjacent to railroad tracks, and the actions of the crane operator need to be coordinated with the movement of other equipment or trains on the same or adjacent tracks.
- (c) The operator's reception of signals must be by a hands-free system. *(the signal person's does not)

***Question on written test:** If you are using radios to communicate, which of these do not apply:

- a. The signal person must use a hands-free radio**
- b. The operator must use a hand-free radio
- c. It must be on a dedicated channel
- d. They should be fully charged

R
I
G
I
N
G

T
R
A
I
N
I
N
G

Audible Vehicle Travel Signals

When moving the vehicle, use the following signals:

GO FORWARD: two short audible signals

STOP: one short audible signal

BACK UP: three short audible signals

Hand Signals

Audible vehicle travel signals:

When moving the vehicle, the following signals shall be used:

GO FORWARD: two short audible signals

STOP: one short audible signal

***BACK UP:** three short audible signals

***Question on written test:** When traveling the crane, how many short audible signals designate you are going to back up?

- a. One
- b. Two
- c. Three**
- d. Four