How To Pass The Crane Operator Certification Practical Exam

The crane operator certification practical exam (hands on) consists of 4 tasks:

1. Place overhead ball in stop circle  
   (optimum time 1:30)

2. Follow hand signals  
   (not timed)

3. Place overhead ball in two barrels  
   (optimum time 3:30)

4-A. Negotiate zigzag corridor with test weight forward  
4-B. Negotiate zigzag corridor with test weight reverse  
   (optimum time 3:00 each way swing cab telescopic boom crane)  
   (optimum time 4:00 each way fixed cab telescopic boom crane)
Crane Selection

Before taking the exam it is important to select the right type of crane, for the category in which you choose to be certified on. The national crane operator certification test breaks these categories down into two categories:

1. Fixed-cab telescopic boom crane (previously referred to as less than 17.5 tons)
2. Swing-cab telescopic boom crane (previously referred to as more than 17.5 tons)

The way in which the crane is set up in relation to the test course can make a significant difference. There are many factors taken into consideration by the testing company in the layout of the course, but the most important one is the maximum boom length of the crane. The layout of the course is based on 70%-75% of the boom length on the crane being used. The course is laid out based on the boom angles of the crane; the longer the maximum boom length on the crane -- the more difficult the test will be. This is a unique circumstance when “bigger is not necessarily better.”

When selecting a crane to take your practical exam on, you want to keep it as simple as possible. That being the case, an older crane with less capacity is the best bet. Older cranes might not run as smoothly, but generally they have shorter boom lengths than newer models. This means the test course and the 55 gallon barrels are much closer to you than if you were testing on a newer crane of the same capacity. The older cranes also seem to be built a lot stouter; this means that the booms have less deflection in them (less shaky) than the newer cranes of similar capacity with longer booms. Your last consideration is to select which type of crane to do your test on.

American Crane School has conducted thousands of practical tests on many types of cranes. The best results for the fixed cab telescopic boom crane have always come from candidates testing on boom trucks (as opposed to a carrydeck crane). On the swing cab cranes, we have not found there to be a significant difference in testing results when candidates use a truck crane or a rough terrain crane. American Crane School uses many cranes in our training and testing process, which are all Cal OSHA certified. These cranes are used exclusively for the training and testing for crane operator certification.
**Test weight selection**

When the CAD drawings are designed for how a crane is to be set up in reference to the test course, another important factor is the diameter of the test weight. Test weight diameters can range anywhere from 2’-4’ diameter. Here too, bigger is definitely not better.

The course size is based on the diameter of the test weight. The course is laid out in a way that gives you two feet on either side of the test weight (between the poles) to maneuver through the course. The size of the start and stop circle, however, always remains the same: 6’ diameter. This makes landing a 2’ diameter test weight into the circle much easier than landing a 4’ diameter test weight into the circle. The weight of the test weight ranges between 20%-30% of the single line pull of the crane.

*California Crane School only uses 2’ diameter test weights for crane operator certification training and testing.*

**Before you start the Practical Exam**

The Practical Exam begins the minute you sign your score sheet. You will be given a 15 minute familiarization period. You are not allowed to shadow the zigzag corridor or barrels with the headache ball. During this time you must stay in a designated area and familiarize yourself with the functions of the crane. Telescoping is not permitted.

You also get a five-minute familiarization period with the test weight in a designated area before you start task #4: *Negotiate zigzag corridor with test weight.* Keep in mind you can practice as much as you want with the crane, the test weight and the test course before you sign your score sheet or before your test begins. This can also help you achieve positive results on your crane practical exam.

*American Crane School offers extra practice time with cranes and an instructor at a rate of $125 per hour.*

**Tennis balls on poles**

The testing company allows practical examiners to use a 12’ nylon string to attach the balls onto the poles so that a lazy examiner or proctor does not have to fetch the tennis balls when they fall off of the cones. This practice might be convenient for the practical examiner or proctor... but it puts the candidate at a disadvantage. When the cone is starting to lay over and the ball falls off the pole, the pull of gravity on the attached ball is sometimes enough to pull the pole completely over, resulting in a much more significant point loss than just knocking a tennis ball off.

*American Crane School does not use the services of lazy practical examiners and proctors we make them chase the tennis balls.*
Common excuses you should avoid using

1. The crane is too shaky.
   
   *That crane was standing perfectly still before you got on it.*

2. We always use taglines at work. Why can’t we use taglines on the test weight during the test?

   *This test is not designed for tagline operator certification, but a crane operator certification.*

3. We only use a crane from time to time. Why do we have to go through all this crane operator certification?

   *Because Cal-OSHA says you do.* 5006.1 (Cal-OSHA 5006.1 Questions & Answers) 5006.1 enforcement.

4. Why is there a time limit on the crane test when at work we can go as slow as we want just as long as we operate the crane safely?

   *Sure we would all like to sit around and wait for the load to stop swinging every time you perform a function but you are not at work. You are performing a test that is designed to assess your abilities as a crane operator.*

Frequently Asked Questions (Crane Practical Exam)

1. If I take my crane operator certification practical exam on a little Grove 18 ton rough terrain crane am I certified to operate a 1,200 ton crane?

   *Yes! California Crane School does not set the standards. We are simply the ones that get you to meet them. Once you are certified you have met the minimum requirement. However, this does not mean that you are a super duper crane operator.*

2. Is it better to knock more balls off the poles and do the crane practical exam test course fast, or is it better to take my time and not knock over anything?

   *This is a difficult question to answer. We have seen crane operators knock over a lot of things with fast times and pass. We have also seen crane operators not knock anything over but take too long and fail. There is a balance. The best thing to do is stay within the time limits (try not to knock anything over).*

   3. **What is the best way to practice if I want to pass the crane operator certification practical test?**

   *Most candidates just want to practice playing with the practical exam test course or putting the headache ball into the barrels. This could help you if you have already mastered the 5-gallon bucket of water trick. But if you haven't learned how to control the load this is a waste of time.*

   **For fastest results this is it:**

   **Step 1**
   Get a 5-gallon bucket.

   **Step 2**
   Hang the bucket on the hook (the crane should be reeved with a single part line).

   **Step 3**
   Fill the bucket almost to the top with water.

   **Step 4**
   Practice swinging the crane left and right until you can use half throttle and the swing function or lever is fully engaged. Then bring it to a complete stop without spilling the water or setting it on the down.

   **Step 5**
   Practice lowering and raising the boom until you can use half throttle and the swing function or lever is fully engaged. Then bring it to a complete stop without spilling the water or setting it on the down.

   **Step 6**
   Combine step 4 and 5 until you can use both of the functions simultaneously without spilling the water.
4. What if the load starts to swing into a circular motion?

If the load starts to go into a circular motion stop one movement at a time; first the side to side motion, second it will only swing in and out, then you can stop the back and forth motion by lowering and raising the boom.

5. How would I practice if I did not have access to a crane, or what can I do to learn the concepts of how a crane operates before I get into the seat?

**Poor Man’s Crane Training**

**Step 1**
Get a pole approximately 8’ long

**Step 2**
Tie a string approximately 4’ long to the end of the pole

**Step 3**
Tie a heavy nut or bolt at the end of the string.

**Step 4**
Put the end of the pole on the ground and practice swinging it around until you learn the concept of how a crane operates and controlling the load.

This may sound strange and you might look stupid doing it so don’t let anyone see you they might laugh at you. But it works.

6. What is the trick for task 1: Place overhead ball in stop circle?

First you must know how to control the headache ball (overhaul ball). Swing from the start circle to the stop circle. When you have the headache ball under control, don’t stop and stare at it, drop it down in the circle without letting the headache ball (overhaul ball) and chain make any contact with the test course, without letting the hook make contact with the ground.

**Hint 1**
When practicing try to remember the boom angle of where the stop circle was located.

**Hint 2**
Keep in mind, the clock is ticking.

( optimum time 1:30)

7. Which hand signals that will be used on the crane operator certification practical exam?

You should familiarize with all of the crane hand signals but the ones that will be the most important for the practical exam are:
8. What is the trick for task 3 placing the headache ball (overhaul ball) into the barrels?

Again like in task 1, you must know how to control the headache ball (overhead ball). Swing from the start circle to barrel number 1. When you have the headache ball under control, don’t stop and stare at it, drop it down into the barrel where the white stripe on the ball goes below the rim of the barrel without knocking the barrel over or moving the barrel more than 2” (it is ok if the hook or headache ball make contact with the barrel). Then when you are given the signal, proceed to barrel number 2 and do the same thing your time will stop when the headache ball is removed from barrel number 2.

**Hint 1**
when practicing try to remember the boom angle of where the barrels were located.

**Hint 2**
Keep in mind, the clock is ticking.

(optimum time 3:30)

9. What is the trick for getting through tasks 4A and 4B the Zigzag corridor?

Again like in task 1 and 3 you must know how to control the load. There are point deductions for everything you knock over, if the load touches the ground, if the 3’ chain attached to the bottom of the test weight leaves the ground, and if you go over your optimum time.

**Hint 1**
If you are not an experienced crane operator or you are not familiar with the crane don’t show everyone how cool you are using all of the cranes functions at the same time. Use one function at a time but don’t let the load stand still, keep the load under control and moving through the course. There is plenty of time if you can control the load and this 1 function at a time method is used (this will ensure that because you might be nervous you do not grab for the wrong function).

**Hint 2**
When you are on the way out of the course on task 4B do not get nervous at the end. Many times crane operators get nervous at the very end of the crane practical exam test course and mess up what could have otherwise been a good run.

**Hint 3**
It’s understandable that you are nervous.

If you lose control of the load:

Stop
Think
Act

Do not immediately react or you might just make it worse.

This will ensure crane safety and successful completion of your crane practical examination.

(optimum time 3:00 each way swing cab telescopic boom crane)
(optimum time 4:00 each way fixed cab telescopic boom crane)

This information is courtesy of American Crane School (if applied) it will ensure success on your crane operator certification practical exam.