



## **Mobile Crane Operator PREP Program for NCCCO Certification**

### **Program Overview**

**Program:** The Mobile Crane Operator Certification PREP training program is the final stage for mobile crane operators to obtain their NCCCO operator certification. This program is a 4 day event according to the following schedule:

Thursday – OPTIONAL, practice time on our cranes

Friday – NCCCO practical exams

Saturday - Classroom instruction day 1 of 2 preparing for the NCCCO written exams (CORE, TSS, TLL & LAT)

Sunday - Classroom instruction day 2 of 2 preparing for the NCCCO written exams (CORE, TSS, TLL & LAT)

Monday – NCCCO written exams (CORE, TSS, TLL & LAT)

**Objectives:** Personnel attending this program will:

- be prepared for the NCCCO written exams;
- take and pass the required NCCCO written exams;
- take and pass the required NCCCO practical exams;
- obtain one or more of the NCCCO mobile crane operator certifications (TSS, TLL and LAT).

**Course Topics** (*as they pertain the certifications sought after*):

#### **Site**

- Elements that affect ground stability
- Supporting materials (mats, blocking/cribbing)
- Electric power line hazards
- Crane travel without load
- Identify and evaluate hazards concerning:
  - Access to job site
  - In-transit clearances
  - Pinch/crush points
  - Personnel
- Controlling entity responsibilities concerning site conditions
- Know how to review lift requirements

#### **Inspections & Set-Up**

- Inspect crane for unsafe conditions
- Personnel safety requirements during inspections
- Inspection requirements for:
  - Shift inspections
  - Monthly inspections
  - Annual inspections
- Notifying supervision of inspection deficiencies
- Leveling the crane
- Obtaining dimensions, weight, and center-of-gravity of the load

- Verify the radius
- Electric power line hazards

#### **Technical Knowledge**

- Federal regulations and industry standards (ASME B30.5, B30.10, OSHA 1910.180, 1926 Subpart CC)
- Crane terminology and definitions
- Functions and limitations of cranes and attachments
- Basic rigging procedures
- Wire rope termination
- Hook blocks and overhaul balls.
- Wire rope:
  - Types and designations of wire rope and their application
  - Replacement criteria and inspection procedures
  - Maintenance and lubrication
- Line pull and safe working load of running ropes
- Protective measures against electrical hazards
- Instruments and gauge readings
- Fall protection requirements
- Access and egress of the crane

## Operations

- Wire rope:
  - Reeving
  - Parts of line
- Signal communications:
  - Hand signals
  - Voice/radio signals
  - Audible signals
  - New or non-standard signals
- Know the requirements for:
  - Multi-crane lifts
  - Suspended personnel platforms
  - Duty cycle operations
  - Barge operations
  - Multi-drum operations
- Lifting loads from the water.
- Procedures when load is not in view of operator.
- Tag lines.
- Block and line twisting
- Personnel in fall zone
- Load moment indicator, load moment limiter, load weighing devices
- Anti-two block devices
- Level indicator
- Boom angle indicator
- Wind indicator
- Drum rotation indicators
- Radius indicators
- Alternative operating procedures when operator aids malfunction.

- Emergency procedures for
  - Electric power line contact
  - Loss of stability
  - Control malfunction
  - Carrier or travel malfunction
  - Two-blocking
  - Overloading
  - Fires
- Effects of dynamic loading from
- Effects of side loading
- Weather conditions (wind, lightning)
- Backward stability
- Manufacturer-approved attachments
- Operator's authority to stop operations
- Shut down and secure the crane when left unattended

## Load Charts

- Terminology necessary to use load charts
- Basic math skills without the use of a calculator
- Ensuring the load chart is the appropriate chart for the machine in its particular application
- How to use load charts, including:
  - Stability versus structural (or hydraulics)
  - Range diagram
  - Work area chart
  - Parts-of-line information
- Calculating net capacity

**Examinations:** There are various preliminary written exam questions that are used as a benchmark for the NCCCO written exams. There are four NCCCO written exams available and they are: CORE, TSS, TLL and LAT. There are three NCCCO practical exams available and they are TSS, TLL and LAT. They are all administered in accordance with the NCCCO policies and procedures. All exams are administered at The Crane School during this 4-day event.

## The 3 Mobile Crane Operator Certifications are:

- TSS – Telescopic Boom Fixed Cab cranes
- TLL – Telescopic Boom Swing Cab cranes
- LAT – Lattice Boom Cranes (crawler and truck)



Sample NCCCO Certification Card

To register for this program and the NCCCO written and practical exams at The Crane School contact us by phone at 813-402-2017 or by email at [info@thecraneschool.com](mailto:info@thecraneschool.com).