

# **IATSE Local 470 Rigging Procedure**

## **Rigger Number Assignment, Maintenance and Dispatch list**

***\*\*\* All initial candidates will have three practical testing cycles<sup>1</sup> before establishing the new list. (Tentative - clock begins Fall 2021)\*\*\****

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<sup>1</sup> Three testing cycles - Minutes of 6/10/2020

# **IATSE Local 470 Rigging Procedure**

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# IATSE Local 470 Rigging Procedure

## 1. PROCEDURE

- 1.1. Each Rigger will be assigned a permanent rigger number based on the completion of the procedural criteria. In the event that more than one candidate completes their criteria on the same day, the individual's seniority date or date of first hire will determine their number assignment.

## 2. CRITERIA

### 2.1. Permanent **Authorized rigger number**:

- 2.1.1. Submit a written request for inclusion
- 2.1.2. Attend down rigging class
- 2.1.3. Have an appropriate-length rope and a sheave for assigned call
- 2.1.4. Must demonstrate ability to lift seventy-five (75) pounds.
- 2.1.5. Must demonstrate ability to tie appropriate knots<sup>2</sup>
  - 2.1.5.1. Bowline
  - 2.1.5.2. Clove Hitch
  - 2.1.5.3. Half Hitch
  - 2.1.5.4. Figure Eight
  - 2.1.5.5. Sheetbend
  - 2.1.5.6. Daisy Chain
- 2.1.6. Must have basic knowledge of rigging
- 2.1.7. Must subscribe to local rigging conditions
- 2.1.8. Must have a working knowledge of rigging terms
- 2.1.9. Upon completion of steps 1-8 applicants will receive the next available authorized rigger number.

### 2.2. **Qualified Rigger number**:

- 2.2.1. Meet the requirements stated for a Qualified Rigger definition in Rigging Standard (see appendix 2)
- 2.2.2. Pass the Qualified Rigger Written test and Qualified Rigger Practical test
- 2.2.3. Have gear list (see appendix 1)
- 2.2.4. Upon completion of steps 1-3 applicant will receive the next available qualified rigger number<sup>3</sup>

## 3. TESTING PROCEDURE<sup>4</sup>

### 3.1. Qualified Rigger Written Test procedure

- 3.1.1. Follows Journeyman written testing procedure – can be taken whenever testee is ready, must schedule in advance with Vice President (VP)(at least 2 weeks' notice)
- 3.1.2. No notes or cell phones will be allowed during testing. Simple calculator allowed (again, no phones or graphing calculators)

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<sup>2</sup> 2.1.5 Testing of Knot tying done during Practical testing

<sup>3</sup> 2.1.9 and 2.2.4 amended on 2-26-2021 during Committee Meeting

<sup>4</sup>Testing Procedure layout - Minutes of 5/22/2020

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- 3.1.3. Test will NOT be taken by sections, but **in entirety**
- 3.1.4. There is no study guide, and failed/passed tests will not be allowed to be taken home. Qualified Rigger Written Test Outline can be found in appendix 2.1 and Qualified Rigger Test Bibliography can be found in appendix 2.2.

## 3.2. Qualified Rigger Practical Test

- 3.2.1. Given twice (2x) a year
- 3.2.2. At least 2 weeks' notice of intention to attend to VP

## 4. MAINTENANCE

### 4.1. Recertification\*<sup>5</sup>

*See the approved Recertification Procedure (see appendix 3)*

*\*Failure would remove you to bottom of dispatch list until recertification criterion was met, returning you to your previous place on dispatch.*

## 5. DISPATCH LIST

- 5.1. The Rigging specialty group is divided into two (2) categories, Qualified Riggers and Authorized Riggers. (see Rigging Standard appendix 4)
- 5.2. Qualified Riggers are organized into A-B-C-D Dispatch Group lists.
- 5.3. Authorized Riggers will have a separate A-B-C-D Dispatch Group list.
- 5.4. Each list will be based initially by the general hiring hall A-B-C-D Dispatch Group list. Assigned Rigger Number then sorts each list (A-B-C-D).
- 5.5. In the event that a person does not meet the hour's requirement for a Dispatch Group list they may use the Alternate Method (see 6 below) for Group placement to advance to a higher group.
- 5.6. All Rigging dispatch lists will be compiled concurrent with the general hiring hall list creation.

## 6. ALTERNATE METHOD FOR GROUP PLACEMENT

### 6.1. List Advancement:

- 6.1.1. In order to advance from a lower list to the next higher group, D C B A, a rigger would need to complete additional authorized educational and training courses within the calendar year. A candidate could take one (1) authorized course to advance from D to C, complete two (2) authorized

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<sup>5</sup> 4.1 Recertification - plan laid out and documented by Committee as stated in the Minutes from 9/30/2020

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courses to move from C to B, and complete two (2) authorized courses to advance from B to A. Once the candidate's course/training completion is verified, the dispatch group advancement will take immediate effect.

6.2. Every rigger will have the opportunity of advancement within the Specialized Rigger Dispatch Group list by taking additional approved educational and training courses.

6.2.1. Completed educational course(s)

6.2.1.1. Advancement will remain active through the last day of the same quarter of the following year, or the second anniversary for certain advanced classes/training.

6.2.2. For example, if brother John Smith starts on list C, they can take 2 courses to then advance to list B within that same year. In the same way, sister Jane Smith, starting on list D, can take a total of 5 courses in one year to advance to list A. The Rigging Committee will provide an Annual Education and Training class list (see Appendix 3.1). Certain advanced classes/ training courses can advance a candidate 2 groups for 2 years. This small list of advanced classes includes ETCP, OSHA 30, or SPRAT/IRATA certifications. Other classes/training may be considered 'advanced'. The rigging committee will assess each upon submission from a candidate.

## RIGGER DISPATCH LIST

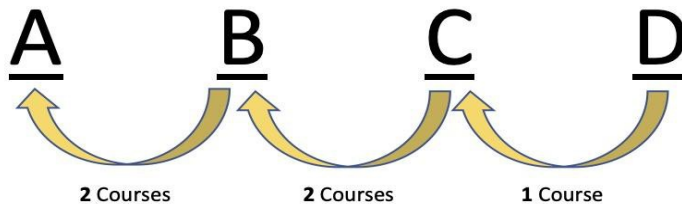
Qualified:

A      B      C      D

- ◆ Authorized Riggers will have separate A-B-C-D list
- ◆ Hiring Hall A-B-C-D list is our starting point

Each list then sorted by assigned Rigger Number

List Advancement:



Every rigger will have the opportunity of advancement within the Specialized Rigger Dispatch List by taking additional educational and training courses within one year. For example, if brother John Smith starts out the year on list C, he can take 2 courses to then advance to list B within that same year. In the same way, sister Jane Smith, starting on list D, can take a total of 5 courses in one year to advance to list A. The Rigging Committee will provide an Annual Education and Training class list.

Exception: A small list of "Advanced" classes/training courses will advance a rigger 2 lists for 2 years. (This list includes ETCP, OSHA 30, or SPRAT/IRATA certifications.)

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### 7. **Appendix 1- Recommended and Required Gear List for Qualified Riggers<sup>6</sup>**

- 7.1. All Qualified Riggers will possess and abide by the following Gear List:
- 7.2. Recommended (D. Rig)
  - 7.2.1. Appropriate personal PPE
  - 7.2.2. Gloves
  - 7.2.3. Personalized Hard Hat
- 7.3. Required (D. Rig)
  - 7.3.1. Laser
  - 7.3.2. Electrical Tape
  - 7.3.3. Crescent Wrench
  - 7.3.4. Boxcar/Sidewalk Chalk
  - 7.3.5. Radio
- 7.4. Recommended (U. Rig)
  - 7.4.1. Personal Fall Protection & PPE
  - 7.4.2. 125' Rope
  - 7.4.3. 60' Rope (Country USA)
- 7.5. Required (U. Rig)
  - 7.5.1. Radio & tether
  - 7.5.2. Appropriate-length rope
  - 7.5.3. Rated daisy chain/runner
  - 7.5.4. Sheave
  - 7.5.5. Locking carabiner

### 8. **Appendix 2 - Qualified Rigger Definition**

- 8.1. A **QUALIFIED** Rigger is defined:
  - 8.1.1. Has acquired the skill level to be accepted to this status. By passing the rigging exams as provided by IATSE Local 470, and successfully demonstrated his/her/their ability to solve and/or resolve problems relating to the subject matter, as well as demonstrating the ability to lead, supervise and coordinate others as necessary in the subject matter. Also must possess the tools required to execute the responsibilities of the position.

### 9. **Appendix 2.1- Rigging Written Test Outline**

- 9.1. General Knowledge
  - 9.1.1. Knots
- 9.2. Wire rope
  - 9.2.1. Deck chain
  - 9.2.2. Basket construction
  - 9.2.3. Safety
  - 9.2.4. Safe practices

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<sup>6</sup> Adopted at the May 30th, 2018 General Membership meeting

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- 9.2.5. Terms
- 9.2.6. Capacities
- 9.3. Weights and measures
- 9.4. Workplace Safety
  - 9.4.1. PPE
  - 9.4.2. Terminology
  - 9.4.3. Safety Factors
  - 9.4.4. Design Factors
- 9.5. Floor Markings
  - 9.5.1. Identification
  - 9.5.2. Best practices
- 9.6. Math Concepts
  - 9.6.1. Load distribution
  - 9.6.2. Bridle angles
  - 9.6.3. Load
  - 9.6.4. Safety factor
  - 9.6.5. Terminology
  - 9.6.6. Bridle leg calculation
  - 9.6.7. Forces
  - 9.6.8. Mechanical advantage
- 9.7. Basics safe or dangerous
  - 9.7.1. Shackle orientation
  - 9.7.2. Hitch angles
  - 9.7.3. Basket hitches
  - 9.7.4. Bridle junctions
  - 9.7.5. Breast lines
  - 9.7.6. Hooks
  - 9.7.7. Round slings and Trusses
  - 9.7.8. Safeties
  - 9.7.9. Cable bends
  - 9.7.10. STAC

## 10. Appendix 2.2 - Rigging Test Bibliography

- 10.1.1. The following lists are intended to help provide resources that can help in preparation for the IATSE 470 Qualified Rigger Test. They are not exhaustive nor do they represent the only sources that can be found to be useful. This is an organic document and will be updated as more resources present themselves. If a link fails to load please copy and paste the URL into your browser of choice. Enjoy!

### 10.2. Publications:

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- 10.3. *Rigging Math Made Simple, 6th Edition*, Delbert L. Hall, July 7, 2019, Johnson City, Tennessee, Spring Knoll Press.

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- 10.4. *The Rigging Math Made Simple Workbook 1st Edition*, Delbert L Hall, Brian Sickels, Spring Knoll Press; 1 edition (July 14, 2014), Johnson City, Tennessee, Spring Knoll Press.
- 10.5. *The Arena Riggers' Handbook*, Delbert L Hall (Author), Brian Sickels, September 24, 2015, Johnson City, Tennessee, Spring Knoll Press.
- 10.6. *The Theatre Riggers' Handbook*, Delbert L. Hall (Author), Brian Sickels, July 26, 2016, Johnson City, Tennessee, Spring Knoll Press.
- 10.7. *Entertainment Rigging: A Practical Guide*, Harry Donovan, 2008, Rigging Seminars.
- 10.8. *Entertainment Rigging for the 21st Century: Compilation of Work on Rigging Practices, Safety, and Related Topics*, Bill Sapsis (Editor), September 11, 2014, Focal Press; 1 edition
- 10.9. *How to Calculate the Mechanical Advantage of Hauling Systems*, Tim Fox & Mick Holton, 2<sup>nd</sup> Edition.
  - 10.9.1. <https://www.yumpu.com/en/document/view/37024270/mechanical-advantage-paperpdf>
- 10.10. *International Code of Practice for Entertainment Rigging*
  - 10.10.1. <https://www.prolyte.com/uploads/bestanden/icoper-v1.0.pdf>
- 10.11. *Manual Rigging Installation Manual*, JR Clancy, 003-1034 Rev 2: March 2012
- 10.12. CM Entertainment Technology Lodestar
  - 10.12.1. <http://www.cm-et.com/Public/44853/Lodestar%20Manual%2010001681.pdf>
- 10.13. Hoisting and Rigging Safety Manual, Infrastructure Health & Safety Association, Fourth printing, March 2012. ISBN-13: 978-0-919465-70-1
  - 10.13.1. <https://www.ihsa.ca/PDFs/Products/ld/M035.pdf>
- 10.14. WELDED STEEL CHAIN SPECIFICATIONS, National Association of Chain Manufacturers, Adopted April 11, 2010
  - 10.14.1. <https://www.nacm.info/specifications/welded-chain-specifications/>
- 10.15. Web Sling & Tie Down Association;



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- 10.15.1. <https://www.wstda.com/products/manuals.cfm>
    - 10.15.1.1. Recommended Operating, Care and Inspection Manual for Nylon & Polyester Synthetic Web Slings
    - 10.15.1.2. Recommended Operating, Care and Inspection Manual for Synthetic Polyester Roundslings
  - 10.15.2. *Safe Rigging Practices for the Entertainment Industry in New Zealand*, version 1.0, Entertainment Technology New Zealand Incorporated, Andrew Gibson, Steve Sanders, Sam Johnston, and James Killen
  - 10.15.3. June 2015
    - 10.15.3.1. <https://etnz.org/wp-content/uploads/2017/02/safe-rigging-practices-nz-v1.0-june-2015.pdf>
  - 10.15.4. Crosby
    - 10.15.4.1. <https://2umj2v4bdovx43eh8s1vlumw-wpengine.netdna-ssl.com/wp-content/uploads/2013/12/57.pdf>
    - 10.15.4.2. <https://2umj2v4bdovx43eh8s1vlumw-wpengine.netdna-ssl.com/wp-content/uploads/2013/12/56.pdf>
  - 10.15.5. Mazzella Companies
    - 10.15.5.1. <https://www.mazzellacompanies.com/Resources/Downloads?hsCtaTracking=2168a119-e092-4853-9b98-100bbe568150%7Cfadb2fd5-7b8e-4275-a67b-ae1f3318a55e>
  - 10.15.6. Resources; Wire Rope Section (PDF)
  - 10.15.7. *Rigging*, James Headley, 3 edition, Crane institute of America, Incorporated, 2002, ISBN 0974427918, 9780974427911
  - 10.15.8. *Rigging Techniques, Procedures, and Applications*. FM 5-125 MCRP 3-17.7J, Headquarters, Department of The Army.
    - 10.15.8.1. <https://www.marines.mil/Portals/1/MCRP%203-17.7J%20With%20Ch.%201%20z.pd>
- 10.16. **Fee based online learning**
- 10.16.1.1. *BASIC ENTERTAINMENT RIGGING & INSPECTION*
  - 10.16.1.2. Online Course | 7 Hours
    - 10.16.1.2.1. <https://www.iti.com/online/entertainment-rigging>
  - 10.16.1.3. American Crane & Safety

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- 10.16.1.4. Entertainment Rigging Courses
- 10.16.1.5. *Entertainment Basic Rigging Fundamentals - Module 1*
- 10.16.1.6. *Entertainment Basic Rigging Fundamentals - Module 2*
  - 10.16.1.6.1. <https://amcands.thinkific.com/collections?category=entertainment-rigging-courses>

## 11. **Appendix 3- Qualified Rigger Recertification Procedure** **IATSE Local 470**

### 11.1. **DEFINITIONS**

- 11.1.1. CEU- Continuing Education Unit based on length of activity in hours.(see Appendix 3.1)
- 11.1.2. TTF – Training Trust Fund
- 11.1.3. ETCP- Entertainment Technician Certification Program
- 11.1.4. Transferable Skills class- A class that's primary focus is not directly related to the Rigging but may contain rigging training elements

### 11.2. To maintain a Qualified Rigger status for dispatch an individual must meet one the following criteria

#### 11.2.1. **OPTION 1**

- 11.2.1.1. Recertify once every 5(five) years.
- 11.2.1.2. Complete 30 rigging calls
  - 11.2.1.2.1. Self-reported logbook, submitted annually to the Rigging Committee in an approved logbook format for review.
- 11.2.1.3. Complete 40 continuing education units.
- 11.2.1.4. Third Party Education
  - 11.2.1.4.1. Industry specific from Approved Class List 1X CEU (Appendix 3.1)
  - 11.2.1.4.2. Any Transferable Skills class (11.1.4) containing applicable rigging with pre-approval from Rigging Committee. 1/2x CEU

#### 11.2.2. **OPTION 2**

- 11.2.2.1. Recertify once every 5 (five) years
- 11.2.2.2. Complete 30 rigging calls
  - 11.2.2.2.1. Self-reported logbook submitted annually to the Rigging Committee in an approved logbook format for review.
- 11.2.2.3. Complete 10 CEU Approved Class List 1X CEU (Appendix 3.1)
- 11.2.2.4. Retake Qualified Rigger Written exam
- 11.2.2.5. The individual may submit a third party educational class, not listed on the approved class list, for review by the Rigging Committee. The Committee will rule on what value the course will be given and added to the approved list.

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### 12. **APPENDIX 3.1 - Sanctioned CEU'S**

- 12.1.1. Proctor Stage Practical exam 4 CEU minimum per exam day
- 12.1.2. Proctor Qualified Rigger Practical Exam 4 CEU minimum per exam day
- 12.1.3. Teach as a TTF recognized Trainer 2x CEU
- 12.1.4. Teach as a ETCP recognized Trainer 2x CEU
- 12.1.5. Teach as a non-recognized Trainer in an IATSE 470 sanctioned class. 1X CEU
- 12.1.6. Become Recognized TTF trainer 1x CEU
- 12.1.7. Become Recognized ETCP trainer 1x CEU
- 12.1.8. Attend an approved class 1x CEU
- 12.2. **APPROVED CLASS LIST**
  - 12.2.1. ALL TTF recognized rigging classes
  - 12.2.2. ALL TTF Safety first classes
  - 12.2.3. OSHA 10 entertainment, construction or general industry
  - 12.2.4. OSHA 30 Construction or General Industry
  - 12.2.5. All ETCP Recognized Rigging Training Programs, in person or online
  - 12.2.6. Crosby Online Course
    - 12.2.6.1. User's Guide for Lifting Online Course
    - 12.2.6.2. Crosby Training Courses (Instructor Led)
  - 12.2.7. ITI Courses
    - 12.2.7.1. Basic Entertainment Rigging and Inspection
    - 12.2.7.2. Bull Rigging - Who, What, Where, Why & How
    - 12.2.7.3. Bull Rigging Online
    - 12.2.7.4. NCCCO Rigger I & II
    - 12.2.7.5. Load Distribution: Trolley Beams & Two-Crane Picks
  - 12.2.8. American Crane & Safety
    - 12.2.8.1. Entertainment Rigging Module 1 and Module 2
  - 12.2.9. CM Online Lodestar Maintenance Training
  - 12.2.10. CM-ET, Mega School
  - 12.2.11. Sapsis Rigging Inc. online rigging training
  - 12.2.12. USITT Rigging oriented
- 12.3. Failure to complete recertification would move you temporarily to the bottom of the dispatch list. Upon completion of recertification criterion, you will return to your previous place on the dispatch list.

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## 13. Appendix 3.2 - Logbook (sample)

Rigger self reporting logbook				
Rigger Name				
	DATE	VENUE	SHOW	POSITION
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Sample

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### 14. Appendix 4 - IATSE 470 Rigging Standard

In an effort to reduce confusion and in order to provide a safer work environment, the following standards have been adopted to define a Rigger for appropriate required work calls.

A **QUALIFIED** Rigger is defined:

Has acquired the skill level to be accepted to this status. By passing the rigging exams as provided by IATSE Local 470, and successfully demonstrated his/her ability to solve and/or resolve problems relating to the subject matter, as well as demonstrating the ability to lead, supervise and coordinate others as necessary in the subject matter. Also must possess the tools required to execute the responsibilities of the position.

An **AUTHORIZED** Rigger is defined:

A person temporarily approved or assigned by the union or business agent to perform a specific type of duty at the job site who is trained to perform such duties safely and effectively under the supervision of a Qualified Rigger.

It must be understood that there are two types of Rigging: **THEATRICAL** and **ARENA**.

1. Theatrical
  - 1.1. Counterweight systems. Must have at least basic knowledge of materials, manufacturing methods, and the proper applications of different rigging systems. Has skills related to the installation and construction of rigging systems.
2. Arena
  - 2.1. Takes place in arenas, theatres, convention centers or outdoor roof structures. Mounting temporary lifting systems.

ALL Riggers:

1. Must demonstrate ability to lift seventy-five (75) pounds
2. Must demonstrate ability to tie appropriate knots
3. Must have basic knowledge of rigging
4. Must subscribe to local rigging conditions
5. Must have a working knowledge of rigging terms

Rigging Sub Categories:

1. Ground/DownRigger
2. Grid Rigger
3. Bucket/Aerial Rigger
4. High/Up Rigger
5. Climbing or Rope Access

**Ground/DownRigger:** Maintains safe perimeters underneath high work being done,

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maintains a safe path and perimeter around aerial work platforms, monitors the movement of aerial work platforms, assembles to lines for high work being done, marks or “lays” out points on the floor and moves designators for high work (rigging points and laser plumbs), assembles and checks out motion control systems, makes attachments to lifting frames, lighting trusses, audio, video and scenery for hoisting or flying, does visual and mechanical safety inspections.

**Grid Rigger:** Has all of the skills and responsibility of a ground rigger and must be able to identify suitable structure and attachment for rigging, must be able to lift one-hundred (100) pounds, must have advanced rope skills, be able to apply rope work mechanical advantages, as well as knowledge of materials, manufacturing methods and the proper applications of different rigging systems.

**Bucket/Aerial Rigger:** Possessing all the skills as a Grid Rigger with addition to the ability to operate an aerial work platform.

**High/Up Rigger:** Virtually identical to a Grid Rigger, only they apply their trade while standing, sitting on or hanging from an exposed structural member.

**Climbing or Rope Access:** Virtually identical to a High/Up Rigger, but also must have exceptional rope skills. They must also be very physically fit and able to pull their own body weight up into structural ceilings on belay while applying personal fall protection as they go. They must be proficient with harness positioning systems and advanced rope friction and hauling systems.