

Hunter Contracting Co.

CRITICAL LIFT

Project:

Date:

Prepared by:

I. CRANE DATA

- 1) Make & Model # ... 2) Unit # ...
3) Crane Type: Crawler, Carrier, Hydraulic, Other ... boom type
4) Lattice Boom Model & Type: ... Angle Chord, Tubular Chord ... Offset Tip, Tapered Tip, Hammerhead
5) Boom Length ... ft. 6) Jib Model ... Length, Offset
7) Counterweight ... lbs.

II. LOAD CAPACITY

Operating by the "seat of the pants" is very dangerous. Never use signs of tipping to determine if a load is within capacity.

- 8) Exact Load Weight ... lbs. 9) Size of Load ...
10) Calculate Total Load

Total Load = Exact Load Weight + Rigging

- + ... lbs. Exact Load Weight
+ ... lbs. Rigging Weight (i.e. shackles, slings, picking beams)
+ ... lbs. Main Block
+ ... lbs. "Effective" Jib Weight
+ ... lbs. Cable
+ ... lbs. Headache Ball
+ ... lbs. Others
= ... lbs. Total Load

- 11) Maximum Load Radius ... ft. 13) Minimum Load Radius ... ft.
12) Boom Angle at Maximum Radius ... ° 14) Boom Angle at Minimum Radius ... °

To calculate parts of line required: Total Load/2000 ... TONS

Refer to Wire Rope Safe Working Load Chart (SF = 3.5) for number of parts-of-line for the size of cable in the crane. Refer to chart in the crane log.

- 15) Diameter of wire rope ... 20) Lead Line Load ... lbs.
16) Number of Parts Used ... 21) Crane Hoist Line Pull ... lbs.
17) S.W.L. of reeving system ... tons
18) End Termination efficiency ... %
19) Rated Load of System ... tons

Remember: The factor of safety for all grades of American wire rope shall be a minimum of three and one half (3.5) for the hoist line of the crane. Other rigging must have a factor of safety of 5.

III. RIGGING

- |     |  |                                      |
|-----|--|--------------------------------------|
| 21) | Sling Construction: Wire Rope: Dia. Inches _____             | # Parts _____                        |
|     | Synthetic: _____   | Round Sling <input type="checkbox"/> |
|     |  | Flat Sling <input type="checkbox"/>  |
| 22) | Number of Legs _____   |                                      |
| 23) | Sling Angle _____  |                                      |
| 24) | Load Angle Factor (if not an angle in charts) _____          |                                      |
| 25) | Load on Sling _____  | lbs.                                 |
| 26) | Rated Sling Capacity _____                                   | lbs.                                 |
| 27) | End Termination Efficiency _____                             | %                                    |
| 28) | S.W.L. of Sling _____  | lbs.                                 |
| 29) | Means of Fastening Sling or Hoist Hook to Load _____         |                                      |
| 30) | Capacity of Fastener, i.e.: Shackle, Picking Eye, etc. _____ | lbs. ea.                             |
| 31) | Capacity of Load Block _____                                 | lbs.                                 |

IV. PRE-LIFT REQUIREMENTS (All must be answered yes)

- 32) \_\_\_\_\_ Load chart utilized is for exact crane model, boom type & length
- 33) \_\_\_\_\_ Competent person in charge of lift: **Name** \_\_\_\_\_  
**Title** \_\_\_\_\_
- 34) \_\_\_\_\_ Competent signal person identified: **Name** \_\_\_\_\_  
**Title** \_\_\_\_\_
- 35) \_\_\_\_\_ Pre-pick meeting held with crew.
- 36) \_\_\_\_\_ Written crane inspection completed within 1 day of critical lift.
- 37) \_\_\_\_\_ Swing path not over personnel.
- 38) \_\_\_\_\_ Footing is sound and level - pre-planning for radio or hand signal communications.  
 Minimum clearances from power lines can and will be maintained
- 39) \_\_\_\_\_ (Under 50KV – 10’ clearance – over 50KV – see OSHA Standard.)
- 40) \_\_\_\_\_ The load radius has been measured with tape measure.
- 41) \_\_\_\_\_ Wind speed does not exceed 20 mph – consider postponing lifts if speeds are more than 10 mph
- 42) \_\_\_\_\_ Load will not touch boom at any time.  
 For Dual Crane Lift, full compliance with Pages 257-258 of “Mobile Crane Manual” by Construction Safety Association of Ontario – lifting diagrams have been prepared.
- 43) \_\_\_\_\_
- 44) \_\_\_\_\_ If on barge, the Regional Manager has reviewed stability and potential lift conditions.  
 Tag lines are long enough, tied only to the load, and in good condition – loose end controlled by designated person.
- 45) \_\_\_\_\_
- 46) \_\_\_\_\_ Operating locations are far enough away from shoring, excavations, and trenches to eliminate risk of collapse.
- 47) \_\_\_\_\_ Application of hardwood mats has been carefully considered.
- 48) \_\_\_\_\_ Outriggers or crawler tracks are fully extended and wheels are clear of ground.
- 49) \_\_\_\_\_ Application of blocking under outrigger pads has been carefully considered.
- 50) \_\_\_\_\_ Adequate swing clearance (minimum 2’) between the counterweight and any obstacles.
- 51) \_\_\_\_\_ Boom composition is correct.
- 52) \_\_\_\_\_ No added counterweight.
- 53) \_\_\_\_\_ Machine is rigged with adequate type of cable & number of parts of hoist line.
- 54) \_\_\_\_\_ Regional Manager and Project Superintendent have discussed lift.
- 55) \_\_\_\_\_ Load block is of adequate capacity & sheaves are of proper size for hoist cable.
- 56) \_\_\_\_\_ All rigging has been inspected for capacity & condition.
- 57) \_\_\_\_\_ Underground structures & conditions have been considered.
- 58) \_\_\_\_\_ When static lines are required they must be securely in place.

**APPROVAL SIGNATURES**

_____ / _____	_____ / _____
Operations Manager Signature	Project Superintendent Signature
Date	Date