



STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
TECHNICAL SPECIFICATIONS FOR

CRANE, CRAWLER, 80 TON

SERIES NO. 210-500

REV. 3/23/2023

EQUIPMENT SPECIFICATION 210-500G

GENERAL

This specification sets forth the minimum requirements for a heavy duty self-contained 80-ton hydraulic powered crawler crane.

Equipment shall be new, a production model of current manufacture, and must meet all state and Federal safety and emission standards in effect at time of order.

REPRESENTATIVE SPECIFICATIONS

A Link-Belt Model 138 HSL with appropriate options and standard features, was used to develop these specifications and establish equivalency evaluation criteria.

Alternate equipment brands and models of similar style, type, character, quality, features, and purpose conforming to the following detailed requirements/specifications will be considered. For evaluation purposes, bidder's proposing an exception/equivalent option/feature to those specified herein, may be required to provide manufacturer/product information (catalogue sheets, detailed specifications, pictures, etc.). This information will be evaluated against the minimum requirements of this specification. Proposed submittals that are determined to not be equivalent to the established criteria will be rejected.

LOUISIANA AUTHORIZED DEALER(S)

Proposed item(s) must be from a manufacturer who has at least one (1) authorized dealer within the State of Louisiana where parts and service can be obtained. Authorized dealer(s) must have properly trained technicians plus all other resources necessary to perform warranty and repair services in complete accordance with the manufacturer's requirements. A letter certifying the ability to meet this requirement, inclusive of the company name(s) and address(es) of the Louisiana authorized dealer(s), should be supplied with the bid submittal and may be required prior to award.

DELIVERY & ACCEPTANCE

Vendor shall perform a test run of each unit to verify that all features and capabilities are operating properly at time of delivery. Documentation of testing may be required prior to acceptance by the Department.

Unit(s) must be delivered completely assembled (including all components, accessories, etc.) and ready for operation without any additional preparation including, but not limited to, ensuring all fluid levels are at their full mark, fuel tank(s) is full, all necessary lubrication has been performed, etc.

Any unit delivered under this specification is subject to rejection if there is evidence of poor workmanship, by either the vendor or the original manufacturer. Noted defects and/or nonconformance findings may be corrected by the vendor. Corrections must be completed and approved by the Equipment Engineer or his representative prior to final acceptance.

Unit(s) shall be delivered “**on the ground;**” DOTD will not unload nor provide any unloading equipment to the vendor/delivery driver in order to offload the unit(s).

NOTE: The Department will have space available for equipment to be unloaded.

EACH UNIT MUST BE SUPPLIED WITH THE FOLLOWING DOCUMENTATION:

1. Dealer's Service Policy
2. Owner's/Operator's Manual(s)
 - a. One (1) Hardcopy
 - b. One (1) Digital Copy
 - i. Acceptable Formats: PDF delivered via USB “Flash Drive”, or E-mail
3. Service Manual(s)
 - a. One (1) Hardcopy
 - b. One (1) Digital Copy
 - i. Acceptable Formats: PDF delivered via USB “Flash Drive”, or E-mail
4. Build Sheet(s) – as applicable
 - a. One (1) Hardcopy
 - b. Build sheets should be writing in plain language (not company specific codes) and include, at a minimum, all standard & optional features of the delivered unit.

NOTE: Invoices will not be processed for payment until the unit(s) have been inspected by the Equipment Engineer or their representative and deemed in compliance with the specifications.

BID SUBMITTALS

Any additions, deletions, or variations from the specifications should be noted in the "Bidder's Exceptions" page of this specification. Exceptions that are noted to be less than a minimum requirement will not be accepted.

Any additions, deletions or variations from the manufacturer's standard published specifications should be noted on the "Bidder's Exceptions" page of this specification. Unless otherwise noted, any items appearing in the manufacturer's standard published specifications furnished by the Bidder are assumed to be included in the Bidder's submittal.

Bidder should note on their submittal any installation(s) to the equipment that will be performed by the vendor instead of the manufacturer.

Failure to note any specification exceptions, manufacturer specification alterations, and/or vendor installations prior to award may result in rejection of the equipment at the time of delivery.

THE NUMBER OF DELIVERY DAYS AFTER RECEIPT OF ORDER (ARO) MAY BE USED AS A FACTOR IN THE AWARD.

EQUIPMENT SPECIFICATIONS

NOTICE TO BIDDERS

Bidder should review the detailed "Equipment Specification" completely and respond to the compliance question at the end of each section by marking "X", in the space provided, for "Yes" or "No". Mark "Yes" to indicate that the equipment bid meets the section exactly as specified. Mark "No" if there are exceptions to any part of that section. Exceptions/deviations to any part of the specification are to be detailed on the "Bidder's Exceptions" page of this specification.

IN ORDER TO BE CONSIDERED FOR AWARD, BIDDER SHOULD RETURN THIS SPECIFICATION, COMPLETED IN FULL, WITH THEIR BID SUBMITTAL.

Note: All Values listed below are minimums unless noted otherwise.

1. Capacity and Dimensions

- 1.1. Lift capacity: 160,000 lbs. @ 12 ft. radius
- 1.2. Comply with the requirements of: (1) Power Crane and Shovel Association Standard Number 4, together with the latest amendments of (2) ANSI B30.5.
 - 1.2.1. Anti-friction bearings wherever practical
- 1.3. General Dimensions
 - 1.3.1. Tailswing: max 14'-6"
 - 1.3.2. Ground Clearance: max 15"
 - 1.3.3. Transport Height: max 13'-6"
 - 1.3.4. Transport Width: max 12'
 - 1.3.5. Working Width: max 17' with tracks extended or 12' with tracks retracted

Comply: ____Yes ____No

2. Lower Structure

- 2.1. Frame
 - 2.1.1. All welded construction lower frame, complete lower of sealed design
 - 2.1.2. Precision machined surfaces for critical mating parts, cast lower frames not acceptable

Comply: ____Yes ____No

2.2. Treadmembers

- 2.2.1. All welded construction
- 2.2.2. 20' minimum length when assembled
- 2.2.3. Extended track length 14' minimum full extension
- 2.2.4. Retracted gauge no more than 9' by means of hydraulic cylinder

Comply: ____Yes ____No

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2.3. Travel system

- 2.3.1. Each treadmember with a completely sealed variable displacement hydraulic axial piston motor and gear reduction unit
- 2.3.2. Provides full counter-rotation with loaded machine
- 2.3.3. Minimum 30% gradeability
- 2.3.4. Variable speed control
- 2.3.5. Provides automatic spring applied hydraulic released brakes.

Comply: ____Yes ____No

2.4. Track and Drive

- 2.4.1. Track drive and idler sprockets should be of heat treated cast steel construction mounted on sealed (oil filled) bearings
- 2.4.2. Track Roller System
 - 2.4.2.1. Bottom roller system should contain at least 11 heat-treated cast steel rollers with sealed (oil filled) bearings bolted to the treadmember frame
 - 2.4.2.2. Top roller/deflector system should contain a minimum of 3 heat-treated cast steel rollers with sealed (oil filled) bearings bolted on each treadmember with at least 1 steel deflector bar located between the rollers
- 2.4.3. Track shoes: 36" width
- 2.4.4. Track adjustment system should automatically adjust the track tension

Comply: ____Yes ____No

3. Upper Structure

- 3.1. All welded construction upper frame with precision machined surfaces for critical mating parts. Lugs should be provided to easily attach a fairlead and/or third hoist drum. The two main structures should be connected with a turntable bearing that is bolted to each structure.
- 3.2. Engine
 - 3.2.1. 6-cylinder diesel, liquid cooled
 - 3.2.2. 450 cu. in, peak torque 525 ft. – lbs.
 - 3.2.3. 24 volt electric start system
 - 3.2.4. Alternator
 - 3.2.5. Voltage regulator
 - 3.2.6. Battery
 - 3.2.7. Service monitoring system
 - 3.2.8. Lubricating oil filter and dry air filter
 - 3.2.9. The full load should be equal to or greater than 175 HP

Comply: ____Yes ____No

3.3. Fuel and Hydraulic capacities

- 3.3.1. Fuel tank: 75 US gallons (minimum)
- 3.3.2. Two (2) variable displacement hydraulic pumps
- 3.3.3. Three (3) fixed displacement hydraulic pumps

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3.3.4. Hydraulic reservoir 50 US gallons (minimum)

3.3.4.1. 10-micron filtration

Comply: ____ Yes ____ No

3.4. Front and rear load hoisting drums

3.4.1. Drum barrel with a minimum root diameter of 17" and grooved for 7/8" wire rope mounted on anti-friction bearings.

3.4.2. Minimum base layer line pull of 32,000 lb. capable of first layer no load line speed of greater than 290 fpm, full load line speed of at least 90 fpm capable of 700' of rope storage, and mechanical drum rotation indicators. Operation modes shall consist of power-up/power-down with fine inching capabilities and freefall. Front and rear drums must contain hoist ropes with working strength capable of 22,700# or 17,520# if rotation resistant rope is used. Mechanical locking pawls should be provided for both hoist drums.

3.5. Third hoist drum

3.5.1. Hydraulic

3.5.2. Pin to the front of the upper frame, mounted on anti-friction bearings

3.5.3. Smooth drum barrel with minimum root diameter of 10.5"

3.5.4. 15,000 lb. minimum base line pull

3.5.5. Power up/power down and free spooling operation modes

3.5.6. Third drum wire rope to be included

Comply: ____ Yes ____ No

3.6. Swing system

3.6.1. Fully hydraulic with bi-directional capabilities independent of the travel circuit. Audio / visual swing alarm should be provided

3.6.2. The swing brake should be spring applied hydraulic release

3.6.3. Mechanical house locks should be provided

Comply: ____ Yes ____ No

3.7. Boom hoist system: Fully Hydraulic

3.7.1. Power-up / power-down axial piston motor

3.7.2. Retractable gantry

3.7.3. Boom hoist reeving with minimum of 5/8" wire rope and pendant

3.7.4. Hoist system should provide spring applied hydraulic released brake with an automatic drum pawl that engages when the boom hoist control is in neutral

3.7.5. Boom hoist-limiting device should be provided

Comply: ____ Yes ____ No

3.8. Electrical system: 24 volt start and 24 volt charging system with negative ground

Comply: ____ Yes ____ No

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3.9. Operators cab

- 3.9.1. Fully enclosed and insulated
- 3.9.2. Tinted safety glass mounted on rubber channels
- 3.9.3. Arm chair controls
- 3.9.4. Clear view of 180 degrees of working area
- 3.9.5. Rear window and mirror
- 3.9.6. 6-way adjustable seat
- 3.9.7. Horn
- 3.9.8. Fire extinguisher
- 3.9.9. Dome light
- 3.9.10. Function lock-out lever
- 3.9.11. Top windshield wipers
- 3.9.12. Climate control system, heat and air conditioner
- 3.9.13. The side and front windows slide or swing open with lock
- 3.9.14. Cab instrumentation should be standard for make and model
- 3.9.15. Load indicating system to clearly display load radius, boom angle, boom length, load on hook and anti-two block protection from each lift point
- 3.9.16. Lockable swing open doors
- 3.9.17. Enclosed and insulated
- 3.9.18. Ladders, steps and catwalks both sides for easy access to all upper machine areas
- 3.9.19. Counterweights should be capable of installation and removal without the use of a helper crane
- 3.9.20. Counterweights attached to upper frame with bolts.

Comply: ____ Yes ____ No

4. Attachments

4.1. Boom

- 4.1.1. Two (2) piece, minimum 40' (20' base + 20' top) length
 - 4.1.1.1. 20' Base section
 - 4.1.1.1.1. Base section equipped with a system that allows for quick attachment of bridle
 - 4.1.1.1.2. Quick draw self-assembly hydraulic cylinder
 - 4.1.1.2. 20' Top Section
 - 4.1.1.2.1. Open throat design
 - 4.1.1.2.2. Head machinery shall consist of five (5) steel sheaves mounted on sealed anti-friction bearings
 - 4.1.1.2.3. Provide lugs as standard to mount optional items (jib, 5' tip extension, and pile driving adapter)
 - 4.1.1.2.4. Auxiliary 5' tip extension included
- 4.1.2. Boom chords and lattice of tubular construction
- 4.1.3. Lifting a minimum of 80 US tons at a 12' radius, 15,800# of clam capacity with 70' of boom, and 15,800# of dragline capacity with 70' of boom
- 4.1.4. Boom angle indicator should be provided in clear view of the operator
- 4.1.5. Boom Extensions
 - 4.1.5.1. One (1) 10' Tubular boom extension
 - 4.1.5.2. Three (3) 30' Tubular boom extensions

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4.1.5.3. Provide minimum 140' (total length) for lift crane work of 70' for clamshell and/or dragline work

4.1.5.4. Extensions should be equipped with sufficient length pendants, rope defectors, and plated pins to allow installation.

4.1.6. Boom Backstops: Spring loaded tubular telescopic type

4.1.7. Auxiliary tip extension, auxiliary wire rope

4.1.8. Pile Driving Adapter

4.1.9. Fixed Jib

4.1.10. Hook Blocks: 15 ton hook ball and swivel and 60 ton 3 sheave hook block

4.1.11. All pins and hardware should be plated to prevent corrosion

Comply: ____ Yes ____ No

5. Transportation

5.1. Main transport load shall be under 90,000 lb., 13'-6" high and less than 12' wide when equipped with boom base section, 10' extension section with pins and pendants, front and rear hoist ropes, backstops, catwalks, and full of fuel

Comply: ____ Yes ____ No

6. Warranty & Manuals

6.1. Two year warranty

6.2. Two (2) sets of operator's manuals, service manuals and all other technical information for the machine.

Comply: ____ Yes ____ No

7. Paint: Manufacturer's standard color

Comply: ____ Yes ____ No

