

## **SUGGESTED SPECIFICATION FOR 9 TON INDUSTRIAL CARGO DECK CRANE**

### **I.0 INTENT:**

It is the purpose of these specifications to describe a 9 TON SELF-PROPELLED INDUSTRIAL CARGO DECK CRANE with features that include low height, narrow width, short length, cargo deck, front-wheel drive and rear-wheel steering to be purchased by:

All parts not specifically mentioned which are necessary, or which are regularly furnished in order to provide a complete functional unit, shall be furnished by the successful bidder at the bid price and shall conform in strength, quality of material, workmanship and sound engineering standards. The bidder shall bid the latest and most current model of this type crane manufactured by the concern which the bidder represents and the crane shall be new and unused.

### **2.0 DESCRIPTION OF THE CRANE AND CHASSIS:**

- 2.1 The chassis shall consist of a one-piece welded frame, four hydraulic outriggers, an electronic fuel injected gas engine with dual fuel, torque converter, powershift transmission with 4-speeds, front planetary drive/steer axle and rear steering axle, fuel tank, oil tank, control station and full power steering.
- 2.2 The boom assembly shall consist of a hydraulic powered, continuous rotation turret, 3-section telescopic boom, hydraulic boom elevating cylinder, hydraulic boom extension cylinders and a hydraulic powered winch. Boom angle indicator on side of boom and a Rated Capacity Limiter.
- 2.3 Selection of Crane (Choose One)
  - 2.3.1 Three-section hydraulically extended boom with capacity of 18,000 pounds at a 5 foot load radius. Horizontal reach of 20 feet 2 inches and vertical reach of 28 feet 2 inches.
  - 2.3.2 Three-section hydraulically extended boom with capacity of 18,000 pounds at a 5 foot load radius. Horizontal reach of 24 feet and vertical reach of 31 feet 9 inches.
  - 2.3.3 Three-section hydraulically extended boom with capacity of 18,000 pounds at a 5 foot load radius. Horizontal reach of 30 feet and vertical reach of 37 feet 5 inches.
- 2.4 Overall width of the chassis shall be no greater than 6 feet 6 inches.
- 2.5 Overall height shall be no greater than 7 feet 3 inches.
- 2.6 The overall width of the unit shall not exceed 9 feet 7 inches when the outriggers are fully extended.
- 2.7 Maximum road speed shall not exceed 20 MPH.
- 2.8 The front axle shall be a drive/steer axle and be equipped with a "No-Spin" differential. The front axle shall be rigidly mounted to frame.
- 2.9 Selection of rear axle: (Choose One)
  - 2.9.1 Non-driving drop-center steering axle with 1-1/2 degree oscillation in either direction.
  - 2.9.2 Drive/steer axle equipped with a limited-slip differential with 1-1/2 degrees of oscillation in either direction.
- 2.10 The front and rear axles shall be equipped with hydraulic brakes. A disc type parking brake shall also be standard.
- 2.11 The crane chassis shall have a hydraulic steering unit with two cylinders attached to front and rear steering axles. Rear axle shall be the primary steer axle. Steering modes shall include; rear-wheel steering, four-wheel round and four-wheel crab steer. Electronic sensors and control box shall be included to automatically align the steering when a new steering mode is selected.
- 2.12 Standard tires shall be:
  - 2.12.1 Two-wheel Drive, 10.00 x 15 load range J radial tires with highway type tread.
  - 2.12.2 Four wheel drive, 10.00 x 15 mining & industrial, 16-ply rating.

- 2.13 Cargo deck shall provide no less than 64\* square feet of self-loading space. Cargo deck shall have a minimum of 14,000 pounds capacity. A step shall be located on each front corner providing access to the cargo deck area. Seven deck stakes and stake pockets along the edge of the deck shall be standard equipment.  
\*54 Square feet with optional Cummins diesel engine.
- 2.14 The four hydraulic outriggers shall be of box-beam construction with independent controls for each outrigger. Hydraulic cylinders shall be equipped with direct-connected holding valves.
- 2.15 A storage box shall be located in the front cargo deck.
- 2.16 Lifting rings shall be located at each corner of the cargo deck so a sling can be attached so the crane may be lifted.
- 2.17 The operator's control station shall provide one-position access to all operating functions and shall include an adjustable operator's seat and retracting seat belt.
- 2.18 The electrical system shall be 12 volt D.C.
- 2.19 The instrument group located at the operator's station shall include fuel, ammeter, oil pressure, water temperature and transmission oil temperature gauges. An hourmeter shall be standard. Warning lights for low transmission pressure, turn signals, high beams, hazard lights and parking brake shall be standard equipment.
- 2.20 The crane chassis shall be equipped with lights. The lighting group shall consist of two 12V lamps with high and low beams for driving; integral tail, brake and turn signal lights and backup lights in rear; front turn signals; and emergency flasher switch at operator's station.
- 2.21 The crane chassis shall be equipped with a 97 decibel solid-state back-up alarm.
- 2.22 The hydraulic system shall consist of a direct-driven tandem pump delivering 16 GPM at 2,600 PSI and 32 GPM at 2,500 PSI at 2,500 RPM governed engine speed. The system shall include pressure relief valves, suction line strainer and 10-micron full-flow return line filter.
- 2.23 The hydraulic reservoir shall have a minimum capacity of 25 gallons.
- 2.24 The boom assembly shall be of high strength steel construction, equipped with bearing pads for efficient support and extension. Double-acting hydraulic cylinders shall telescope boom sections. The telescoping cylinders and boom elevation cylinder shall be equipped with direct connected holding valves.
- 2.25 A heavy-duty ball bearing rotation gear shall be standard. Rotation shall be powered by a hydraulic motor and worm gear drive.
- 2.26 The boom hoist shall be a turret-mounted, planetary gear and hydraulically powered. The bare-drum line pull shall be 10,000 pounds and have a line speed of 110 feet per minute. The hoist shall include 125 ft. of 9/16" wire rope, downhaul weight and swivel hook.
- 2.27 An anti-two block device shall be standard. The purpose of the anti-two block is to prevent damage to hoist rope and/or machine components from accidentally pulling load hook against boom tip. The anti-two block shall dump the hoist raise, telescope extend and boom lower circuits when activated.
- 2.28 A single sheave block for two-part line requirements shall be standard.
- 2.29 A Rated Capacity Limiter (RCL) shall be standard equipment. The RCL shall warn the operator of impending overload with audible and visul signals. The purpose of the RCL is to prevent overloads by stopping boom functions that cause overloads.
- 2.30 The crane and chassis shall be in manufacturer's standard finish paint over a suitable primer.

**3.0 OPTIONAL ACCESSORIES SHALL BE QUOTED SEPARATELY AND SELECTIONS WILL BE MADE AT TIME OF CONTRACT AWARD:**

**3.1 Boom Configuration:**

- 3.1.1 8 feet 2 inches to 20 feet 2 inches of hydraulically extended boom
- 3.1.2 9 feet 6 inches to 24 feet 0 inches of hydraulically extended boom
- 3.1.3 11 feet 6 inches to 30 feet 0 inches of hydraulically extended boom

**3.2 Engine:**

- 3.2.1 Cummins 4B3.9 Diesel Engine
- 3.2.2 Spark Arrester Muffler
- 3.2.3 Catalytic Converter
- 3.2.4 Engine Heater
- 3.2.5 Ether Injection System
- 3.2.6 Engine Shut Down Gauges (diesel only)

**3.3 Axle & Steering:**

- 3.3.1 Four-Wheel Steer & Two-Wheel Drive
- 3.3.2 Four-Wheel Steer & Four-Wheel Drive

**3.4 Tires:**

- 3.4.1 Mining & Industrial, pneumatic
- 3.4.2 Mining & Industrial, Non Marking, pneumatic
- 3.4.3 Solid Rubber Tires:
  - 3.4.3.1 8.25 x 15
  - 3.4.3.2 8.25 x 15, Non-Marking
- 3.4.4 Foam Filling of Tires
- 3.4.5 Spare Tire and Wheel
  - 3.4.5.1 Highway Tread, 10.00 x 15
  - 3.4.5.2 Mining & Industrial
  - 3.4.5.3 Mining & Industrial, Non Marking, pneumatic

**3.5 Chassis:**

- 3.5.1 Auxiliary Winch (hydraulically powered)
- 3.5.2 Pintle Hook - Rear
- 3.5.3 Pintle Hook - Front
- 3.5.4 Headlight and Taillight Grilles
- 3.5.5 Rear Work Light Grilles
- 3.5.6 Rearview Mirrors

**3.6 Operator Compartment:**

- 3.6.1 Operator Guard
- 3.6.2 Operator Guard Cover
- 3.6.3 Operator Guard Door
- 3.6.4 All Weather Cab
- 3.6.5 Cab Heater Only
- 3.6.6 Windshield Washer
- 3.6.7 Floor Mat
- 3.6.8 Operator Suspension Seat
- 3.6.9 Noise Reduction Kit
- 3.6.10 Air Conditioner with R134 coolant

**3.7 Electrical:**

- 3.7.1 Strobe Lights
- 3.7.2 Amber Rotation Beacons
- 3.7.3 Boom Work Lights
- 3.7.4 Work Lights - Rear

**3.8 Boom Attachments:**

- 3.8.1 Boom Extension
  - 3.8.1.1 10 foot
  - 3.8.1.2 10 foot, Offsettable
- 3.8.2 Searcher Hook, Nose Mount

**4.0 SERVICE AND PARTS FACILITIES:**

The purchaser must be assured that spare parts necessary for immediate repair are in the dealer's stock and that a thoroughly trained serviceman be available for repair service within the greater metropolitan area. A complete set of parts and service manuals shall be furnished with the crane.

**5.0 MANUFACTURER'S WARRANTY:**

The successful bidder will be required to furnish a copy of the manufacturer's warranty. The successful bidder shall agree to replace and install, without charge, any defective parts within a period of 180 days from the date the product is placed in service.

**6.0 BID ACCEPTANCE:**

Bids will only be accepted through authorized dealers representing a manufacturer regularly engaged in the design and production of self-propelled hydraulic cranes. Upon request, the bidder shall submit equipment, which this bid describes, for demonstration before the award of contract.

**7.0 AWARD:**

The contract will be awarded to the lowest responsible bidder complying with the specifications and the conditions of the invitation for bids, provided the bid is reasonable and it is in the best interest of the purchaser to accept the bid. The purchaser reserves the right to reject the apparent low bidder who is not considered responsive or in a position to perform the intended contract, in the judgment of the purchaser. The purchaser will be the sole judge of the quality, construction and suitability of the machine offered for the intended use.