

RUBBER TIRED WHEEL LOADER

Minimum Bid Specifications

- Unit bid shall be currently advertised and produced model with all the latest standard features whether or not called for in these specifications. Standard equipment shall be defined in current manufacturer’s literature. (Provide current brochure / specifications of the unit bid)
- Indicate compliance with checking either a YES or NO answer.
- A 'YES' answer indicates 100% compliance with the entire statement. Manufacturer's bid is allowed to meet, or exceed, stated specifications, unless otherwise quantified.
- Explain all 'NO' answers in detail on a separate page, clearly referencing the relevant non-conforming item(s) by section and item number.

	COMPLIANT?	
	YES	NO
A) GENERAL		
1. Unit bid shall consist of a diesel driven, articulated, four-wheel-drive, rubber tire loader.	_____	_____
2. Long boom, pin on, bucket must be 3.0 yd ³ (2.3 m ³) SAE heaped capacity.	_____	_____
3. Long boom, hook on, full turn tip must be at least 16,850 lbs (7640 kg).	_____	_____
B) PERFORMANCE		
1. Unit shall have, with other items specified, without including optional counterweights and tire ballast, the minimum operating weight of 34,000 lbs (15,420 kg) for a long boom, pin on machine.	_____	_____
2. Dump clearance at full height as defined by SAE J732 shall be 10' 8" (3240 mm).	_____	_____
3. Reach at full height as defined by SAE J732 shall be 3' 6" (1060 mm).	_____	_____
4. Breakout force as defined by SAE J732 shall be 25,870 lbf (115.1 kN).	_____	_____
5. Unit shall be equipped with automatic bucket positioner with adjustable position indicator, automatic and adjustable boom kick-out.	_____	_____
6. Unit shall be equipped with a torque-parallel type linkage.	_____	_____
7. Bucket cutting edge width shall exceed tire width.	_____	_____
8. 3 cubic yard 104" wide bucket with bolt on cutting edge and bolt on lower wear plates	_____	_____
C) ENGINE		
1. Unit shall meet all US EPA Tier 3/Stage IIIA emissions requirements for diesel engines. Engines certified to a Family Emission Limit (FEL) are not acceptable.	_____	_____
2. Unit shall be equipped with a minimum six (6) cylinder, four (4) stroke, inline, turbocharged, high torque, low emission, electronically controlled engine developing not less than 172 (128 kW) net flywheel horsepower as defined by SAE J1349.	_____	_____
3. Engine must be of heavy-duty type with dry replaceable cylinder liners and replaceable valve guides and seats.	_____	_____
4. Engine must be three (3) point mounted on rubber to reduce vibration.	_____	_____
5. Engine must be equipped with an air-to-air intercooler.	_____	_____
6. Main cooling fan shall be hydraulically driven and thermostatically controlled to conserve fuel and to reduce exterior noise levels.	_____	_____
7. An electronically controlled, reversing cooling fan option shall be provided.	_____	_____
8. Engine will be equipped with an external indicator for coolant level.	_____	_____
9. Machine must be equipped with a Turbo air cleaner with service indicator lamp on instrument panel.	_____	_____

- 10. Engine must be equipped with a double fuel filter system with water separator and easy drainage access. ____ ____
- 11. Engine shall be fitted with a full flow oil filter. ____ ____
- 12. The engine compartment service doors must be large, easy-to-open and equipped with gas springs. The rear radiator casing shall be hinged and allow easy and efficient cleaning and servicing of the engine and cooling fan. ____ ____
- 13. Fuel heater ____ ____
- 14. Engine safety shut down to idle for low oil or high temperature including transmission. ____ ____
- 15. 110v Engine Block heater. ____ ____

D) ELECTRICAL SYSTEM

- 1. Unit shall be equipped with a computer controlled monitoring and diagnostics system. ____ ____
- 2. Operation data must be recorded and downloadable for service and diagnostics work. ____ ____
- 3. Unit shall alert the operator when scheduled service work is to be performed. ____ ____
- 4. Unit must have warning and indicator lights for the following functions: charging, oil pressure engine and transmission, brake system pressure, parking brake, hydraulic oil level, primary steering, secondary steering, high beams, turn signals, working lights, rotating beacon, preheating coil, differential lock, coolant and transmission oil temperature, low fuel and coolant level, hydraulic oil level, washer fluid level. ____ ____
- 5. Unit shall be equipped with a air filtered alternator capable of 24V/80Amp. ____ ____
- 6. Unit must be equipped with exterior lighting which will include two (2) front 70 watt halogen driving lights with high and low beam. Parking lights, two (2) rear combination stop and tail lights turn signals with hazard warning flashers, and four (4) front and four (4) rear 70 watt working lights shall also be included. ____ ____
- 7. Wiring must be enclosed in a sealed, non-cloth protective casing and will in all possible cases be routed on the opposite side of the frame from the machine's hydraulic hoses. ____ ____
- 8. Heavy duty front head and tail light guards. ____ ____

E) DRIVETRAIN

- 1. Transmission shall be OEM designed and manufactured by the loader manufacturer and matched to the specific loader. ____ ____
- 2. Unit must be equipped with a fully automatic, computer controlled, countershaft type transmission with gear selector control for directional and gear changes. ____ ____
- 3. Transmission must have a minimum of four (4) forward and four (4) reverse gears and produce a maximum speed of not less than 28.7 mph (46.2 km/h) forward and reverse. ____ ____
- 4. Transmission shall have an automatic kick down to first gear which automatically returns to second gear when rim pull requirements diminishes or direction is changed. ____ ____
- 5. Transmission shall have a external sight gauge for fluid level check. ____ ____
- 6. Torque converter shall be of single-stage type. ____ ____
- 7. Transmission must have a mode selector enabling selection of gear shifting points to match specific applications. ____ ____
- 8. Unit must have outboard mounted planetary final drives with fully floating axle shafts. ____ ____
- 9. Unit will have a fixed front axle with a hydraulically operated 100% differential lock manually actuated by the operator inside the cab. The rear axle must be able to oscillate +/- 13 degrees of the center of pivot and feature lifetime lubrication without maintenance. ____ ____
- 10. Dual shift controls for either right or left hand operation ____ ____

F) TIRES

- 1. Unit shall be equipped with 20.5R25 TY Cushion DA2 tires _____
- 2. Front and rear plastic fenders will be provided. _____

G) STEERING

- 1. Unit shall be equipped with load-sensing, hydrostatic, priority feed, piston pump driven steering system, capable of +/- 40 degrees articulation from the center of pivot. _____
- 2. Steering cylinders must be double acting and center hinge must be located so that the rear wheels track the front wheels. The clearance circle to the outside of the bucket corner will not exceed 19' 5" (5927 mm) turning radius. _____
- 3. Lower frame joint bearing will consist of a double-tapered roller bearing with a minimum service interval of 1000 hours; Upper frame joint bearing will be a spherical self-aligning bearing with a minimum service interval of 250 hours. _____

H) BRAKES

- 1. Unit must be equipped with hydraulically operated, oil circulation cooled; outboard mounted wet disc brakes, meeting requirements and standards according to SAE J1473. _____
- 2. Unit shall be equipped with dual service brake pedals and brake wear indicators on each brake. Dynamic brake system deceleration check with results indicated on the display unit. _____
- 3. Service brake system must have two separate circuits, for the front and rear axle that are able to operate independently in case of a malfunction. _____
- 4. A separate, accumulator driven, rechargeable, secondary brake function must be available to enable braking when the engine is not running. _____
- 5. Unit must be equipped with a spring actuated, hydraulically released parking brake system that features a dry disc brake mounted on the transmission output shaft. _____
- 6. Wheel and axle guards _____

I) HYDRAULICS

- 1. Unit must be equipped with a load sensing main hydraulic system with a variable displacement piston pump and a pilot operated main valve. _____
- 2. Hydraulic system shall have a common tank for steering, working and brake hydraulic oil, located so it provides gravity oil feed to the pump. _____
- 3. Hydraulic tank shall have a minimum capacity of 23.8 gallons (90 liters). _____
- 4. All return oil from the main, steering, and brake hydraulics must be filtered through a 20 micron full flow filter (absolute rating) before returning to tank. _____
- 5. System reservoir must include a sight gauge for fluid level check. _____
- 6. Lift circuit will be capable of four functions; raise, hold, lower and float; as well as an automatic, adjustable, automatic boom kick-out with lever detent. _____
- 7. Tilt circuit will be capable of three functions; rollback, hold and dump; as well as an automatic, adjustable, bucket leveling with lever detent. _____

J) OPERATOR'S ENVIRONMENT

- 1. Unit must be equipped with a fully enclosed cab meeting ROPS and FOPS standards per ISO 3471, ISO 3449, ISO 6055 and SAE J386. _____
- 2. Cab must be mounted on viscous-type dampeners. _____
- 3. Cab must be equipped with an air conditioning system capable of heating, cooling, defrosting and pressurizing the cab with a minimum 4-speed fan and an output level of 37,500 Btu/h (11 kW). The defroster must be effective on all windows. _____
- 4. Interior sound level shall not exceed 68 dB (A) in accordance to SAE J2105. _____

- 5. Filtration system must be >98% efficient with SAE fine dust test (SAE J1533). _____
- 6. Unit shall have following equipment: one combination lock kit, AM-FM CD radio, ashtray, cigarette lighter, cab heating with filter, fresh-air inlet and defroster, floor mat, interior lights, two (2) interior and two (2) exterior rear-view mirrors, left and right opening window, tinted safety glass, 3" (76 mm) retractable seatbelt (SAE J386), adjustable hydraulic lever console, operator's seat with high backrest and heating, storage compartment, sun visor, beverage holder, front and rear windshield washers and wipers, interval function for front and rear windshield wipers, service platforms with anti-slip surfaces on rear fenders, speedometer. _____
- 7. Unit shall be equipped with a backup camera. _____
- 8. Fully adjustable heated operators seat _____

K) LOADER LINKAGE

- 1. For pin on machines, linkage must be torque parallel design allowing use of various pin on attachments while promoting high stability by lowering the load center and bringing it closer to the front axle allowing visibility to the cutting edge of bucket. _____
- 2. No more than 20% loss of break out force from leveled to fully back position. _____
- 3. Linkage shall provide parallel attachment movement through the whole lifting cycle. _____
- 4. All linkage pins must be double sealed and have ground access lubrication points. _____
- 5. Load weighing scale built into the machine with read outs _____

L) WARRANTY

- 1. Unit must carry a one year new machine warranty. A copy of the warranty must be attached to the bid proposal. _____

M) ADDITIONAL EQUIPMENT REQUIREMENTS

- 1. A2030-2 AFEX Dual Automatic Dry Chemical System with Linear Detection, AFEX CMP Control Panel 12/24 volt. Manual release in cab area with pneumatic releasing. _____
- 2. Whelen LED cab mounted lights 4 lights to be mounted under cab _____
- 3. Backup Alarm _____
- 4. Anticorrosion radiator and air condition condenser _____

N) WARRANTY

- 1. Unit must include a 3 year remote machine monitoring system with computer accessed performance and operation history. _____
- 2. Unit must include a 3 year preventative maintenance program to include all scheduled filter and fluid changes as called out by the manufacturers published schedule and be performed at a minimum of every 250 hours. This is to include all related costs such as travel time and mileage. Parts and fluids are OEM and all service and maintenance to be performed by trained and certified OEM mechanics. A copy of the proposed preventative maintenance plan shall be attached to the bid proposal. _____

EXCEPTION DETAIL – Please Reference Category and item letter.
