

BID SPECIFICATIONS FOR:
KNUCKLE BOOM LOADER AND TRASH BODY WITH CHASSIS AND SIDE DUMP

THE UNIT WILL BE USED IN COLLECTION AND LOADING OF BULK TRASH, LIMBS, LEAVES, BUILDING MATERIALS, AND WHITE GOODS, OR OTHER MATERIALS OF THAT NATURE. **UNIT MUST BE MANUFACTURED** in an ISO 9000:2000 certified facility. All bidders must fill in all information ALL PROPOSALS INCLUDE DELIVERY, TRAINING OF OPERATORS AND SERVICE PERSONNEL.

1.0 BOOM:

1.1 Boom length to be 16ft. with 4ft. telescoping section to 20ft.

1.2 Minimum lift capacity to be 3,300 Lbs. @ 20ft. including grapple.

1.3 Boom Pedestal to be constructed of High Strength Steel, providing a 3:1 safety factor.

1.4 All hydraulic hoses located at the operator position (Boom Pedestal) must be enclosed in the pedestal base. Access provided by an easily removable steel cover.

1.5 Boom Pivot shall be mounted to the pedestal by means of a slewing ring\bearing that has a minimum capacity of 513,000 lbs. static load and 186,000 Ft-Lbs. moment. Slewing ring shall be 3 ½" thick and have an O.D. of 25 ¾". Boom pivot shall be constructed with a 9" O.D. safety retaining tube. The Boom Pivot Safety Retaining Tube shall be a minimum of 12" long and confine all hoses which pass through the Pedestal/Boom Pivot Assembly.

1.6 Boom rotation of 270 degrees minimum with mechanical stops for safety. Stops must be welded into machined recesses to ensure non-movement. Pedestal stop must have a minimum of three (3) square inches and have a nylon contact with pivot stops and a minimum width of five (5) inches.

1.7 Boom rotation shall be accomplished by a direct hydraulic swing drive through a slewing (bearing) ring& planetary gearbox capable of producing 250,000 inch-pounds torque.

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1.8 Entire Boom Assembly shall be designed with a tensile strength to provide a safety factor of 3 to 1 at the rated load capacity.

1.9 Main Boom shall be constructed of (2) 4"x 8" High Strength Steel Tubing.

1.10 Tip Boom shall be constructed from a 5" x 7" High Strength Steel Tube.

1.11 Tip Boom shall have a 4' telescopic extension tip section constructed from 4"x 6" High Strength Steel Tube.

1.12 Main Boom shall be equipped with mechanical stops to prohibit hydraulic cylinders from bottoming out. Extend boom stops must be easily accessible and removable for service.

1.13 Boom pedestal to be mounted directly to the chassis frame rails. Mounting must include inside frame rail supports at the mounting points.

1.14 The entire boom must be serviceable down to the component level, e.g., every hydraulic hose, fluid tubes, bracket, pin, etc. Having to replace subassemblies in order to repair a component will not be acceptable.

1.15 Telescopic tip extension shall be equipped with replaceable nylon bearings on all 3 sides with roller on bottom. Bearings must be easily accessible for replacement and have "auto-hose-slack" take-up.

1.16 All boom connections requiring pins shall be equipped with replaceable bushings and heat-treated pins.

1.17 All operating functions shall be hydraulically controlled from the operator station located both on the left and right-hand side of the loader.

1.18 Two stage tandem pump allows for multiple function control of the loader.

1.19 Operator controls shall be controlled by means of hydraulic joysticks located on both sides of the loader (two per side, three functions per joy stick).

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1.20 A safety feature shall be provided to allow only one side of controls to function at a time. Joy sticks shall function only from one side at a time.

1.21 Joy sticks shall not require any lubrication thereby eliminating any frequent maintenance.

1.22 Outriggers controlled by individual levers located conveniently in the center of the operator's platform.

1.23 Body dumping is controlled by a single lever at the center of the operator's platform separate from any other control. Proper enclosures shall be provided to protect operator from hydraulic fluid and components. All controls shall be clearly identified as to function.

1.24 Main Boom and Tip Boom cylinders must incorporate integral holding valves. Externally mounted holding valves are not acceptable.

2.0 Trash Grapple\Bucket:

2.1 Bucket shall have a 360-degree continuous rotating grapple with a replaceable hydraulic swivel. Swivel shall not be welded or be an integral part of the grapple.

2.2 Bucket is to be opened and closed by (2) hydraulic cylinders with a closing force\"bite\" of 3,600 lbs.

2.3 Bucket is to be 4' long and capable of opening to 60 inches from lip to lip.

2.4 Bucket shall be fabricated with a

bolt on replaceable H.S.H.C. steel cutting edge.

2.5 Bucket cylinders and hoses shall be

enclosed by a removable steel cover.

3.0 Hydraulics:

3.1 Reservoir shall be a minimum of 45 gallons. It shall have a dual level/oil temperature gauge on side of tank. An in-tank suction strainer is included.

3.2 Filter shall be a 10-micron, return line replaceable filter mounted on outside of reservoir.

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3.3 Cut-off valves are to be provided for both pressure and suction.

3.4 Main boom, tip boom and outrigger hydraulic cylinders shall contain pilot operated check valves as an integral part of each cylinder to prevent boom movement in the event of hydraulic hose failure. Bolt on pilot operated check valves will not be permissible.

3.5 All hoses shall be rated at 4,000-psi working pressure.

3.6 Port tubing through the main boom shall be zinc plated steel tube.

3.7 Control valves shall have a 20 GPM rating.

3.8 Successful bidder must provide a computer printout at time of delivery showing particle testing of the hydraulic oil done just prior to the unit being shipped in order to illustrate cleanliness of Hydraulic System.

4.0 Power Source:

4.1 Unit to be mounted on any chassis that meets the manufactures recommended specification with a heavy – duty clutch style (Hot Shift) PTO and a heavy – duty bi-rotational Tandem hydraulic pump.

5.0 Throttle Control:

5.1 Unit to have an electric operated throttle control to maintain proper engine speed when loader is operated under load. Switch for throttle control to be mounted on operator's platform for operator's convenience.

5.2 Throttle speed-up shall operate only when the transmission in the neutral position.

6.0 Outriggers:

6.1 Outriggers shall be extendable to a distance that will resist loads of 85% of the tipping moment under maximum rated load.

6.2 The outriggers are to be equipped with smooth pads to cause minimum damage to contacted surface.

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6.3 Outriggers shall telescope horizontally in and out; and vertically up and down and operate independently by means of individual mechanical linkage controls. Controls must be located a distinctive distance from the main boom controls.

6.4 Outrigger cylinders for stabilizing loader shall be mounted inside telescoping legs.

6.5 Outriggers shall retract to within the maximum highway width and will extend to a maximum width to resist the design load moment.

6.6 Outrigger Cylinders shall contain holding valves on extend and retract functions to prevent outrigger leak down.

7.0 Trash Body:

7.1 24 cubic yard capacity.

7.2 18-foot body length.

7.3 Body shall be mounted with a minimum space of 60 inches between the cab and the front of the body.

7.4 Body floor shall be made of ¼" sheet steel. Sides are formed to create the lower side bumper channel structure of the body.

7.5 Body walls to be constructed with 10-gauge sheet steel. Wall stiffeners to be a minimum of 11gauge formed channels placed on approximately 24-inch centers.

7.6 Body walls shall have a top rail made of 3"x 4"x ¼" rectangle tubing.

7.7 Wall stiffeners will be welded to top rail and stiffeners will be welded to the wall sheet.

7.8 Front body wall to be 42 inches high with side body walls transitioning from 42 inches high to 60 inches high 8ft. from the body front.

7.9 Body full length main structural channel sills to be 8 inch @ 11.5 lbs. per ft. Cross sills to be 4 inch @ 5.4 lbs. per ft structural channel. Cross sills to be placed on 12-inch centers.

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7.10 Body shall have (2) equal width barn type rear doors 60 inches high to swing completely around to each side wall with provisions to positively latch open for dumping.

7.11 Each door shall be hinged with (2) 1 inch hinge pins. Hinges must be welded to body and door and must contain easily accessible grease fittings. Door latch will secure both doors at the top and bottom.

7.12 Rear doors shall be fabricated from 10-gauge steel with a circumferential frame of 4-inch structural channel.

8.0 Body Hoist:

8.1 The hoist system shall be two 5" bore, two stage telescopic hydraulic cylinders rated @ 2,500 PSI working pressure mounted to provide a 45 degree dump angle. Left and right hoist cylinders must be mounted outboard of the chassis frame.

8.2 Body shall have two (2) body safety props installed one on each side of the chassis frame rails.

9.0 Lights and Reflectors:

9.1 Shall conform to current state and federal standards.

9.2 Oval, amber LED strobes in rear corner posts of body with alternating flash pattern.

9.3 Reflective Safety Tape shall be on both sides and on the rear of body.

10.0 Paint:

10.1 Body exterior shall receive (1) coat of high-grade primer and (2) coats of high-grade standard black enamel paint.

10.2 Body interior shall receive (1) coat of high-grade primer.

10.3 Loader shall receive one (1) coat of High-grade primer and two (2) coats of high grade enamel paint (Manufacturer Standard Color(s)).

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11.0 Safety Rear Bumper:

11.1 Body shall have a rear safety bumper.

Bumper to meet U.S. Department of Transportation Federal Motor Carrier Safety Administration, part 571.233 for rear impact guards and part 571.224 for rear impact protection.

12.0 Warranty:

12.1 Bidder must provide all warranties required below. Failure to provide such warranties may result in your bid being deemed non-responsive.

12.2 Entire unit to have a 1-year parts and labor warranty

12.3 3-year warranty on gear box, slewing ring.

12.4 3-year structural warranty.

12.5 All Warranty Work shall be done on Customer's site (On-site Warranty repair). Customer shall not be responsible for transportation of unit for warranty work.

13.0 OTHER REQUIREMENTS

13.1 A 18" DEEP X 18" WIDE X 48" LOCKING HEAVY DUTY TRUCK BOX SHALL BE FRAME MOUNTED ON THE RIGHT-SIDE OC CAB BEHIND OPERATOR PLATFORM.

13.2 TWO (2) SETS OF RAKE/SHOVEL LOOPS SHALL BE MOUNTED ON THE FRONT WALL OF THE BODY.

CHASSIS SPECIFICATIONS VENDORS RESPONSE, Y/N - EXCEPTIONS

1.0 ENGINE:

1.1 300 OR GREATER H.P. 6 CYLINDER DIESEL W/ 660LB/FT

TORQUE. EXHAUST BRAKE WITH VARIABLE GEOMETRY TURBO

1.2 160 OR GREATER AMP ALTERNATOR

1.3 (2) 12 VOLT 2250 CCA BATTERIES

1.4 POSITIVE AND NEGATIVE POST FOR JUMPSTART.

POSITIVE LOAD DISCONNECT WITH CAB

MOUNTED CONTROL SWITCH MOUNTED

OUTBOARD DRIVER SEAT

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1.5 18.7 CFM COMPRESSOR

1.6 GATES BLUE STRIPE COOLANT HOSES OR EQUIVALENT.

1.7 RH HORIZONTAL AFTER TREATMENT DEVICE. 13 GALLON DEF TANK IF REQUIRED.

1.8 950 SQUARE INCH RADIATOR

2.0 TRANSMISSION

2.1 ALLISON 3000 RDS W/ PTO PROVISION

AND PUSH BUTTON SHIFT CONTROL ON DASH

2.2 INTERFACE WIRING AND BODY BUILDER CONNECTOR BACK OF CAB.

2.3 ELECTRONIC TRANSMISSION CUSTOMER ACCESS CONNECTOR BACK OF CAB

2.4 WATER TO OIL TRANSMISSION COOLER

2.5 SYNTHETIC TRANSMISSION FLUID (TES-295 COMPLIANT)

2.6 ELECTRONIC TRANSMISSION CUSTOMER ACCESS CONNECTOR FIREWALL MOUNTED

2.7 ENGINE REMOTE INTERFACE WITH PRESET FAST IDLE.

2.8 ENGINE REMOTE INTERFACE CONNECTOR MOUNTED BACK OF CAB.

3.0 FRONT AXLE

3.1 12,000LB FRONT AXLE WITH SYNTHETIC 75W90 LUBE.

3.2 12,000LB TAPER LEAF SUSPENSION W/ SHOCK ABSORBERS

3.3 16.5" X 5" Q+ BRAKE SHOES W/ AUTO SLACK ADJUSTERS AND DUST SHIELDS

4.0 REAR AXLE

4.1 21,000LB REAR AXLE WITH SYNTHETIC 75W90 LUBE.

4.2 23,000LB FLAT-LEAF SUSPENSION W/ HELPER AND RADIUS ROD

4.3 17T MAIN DRIVELINE OR EQUIVALENT

4.4 AXLE RATIO TO BE BETWEEN 5.14 AND 6.86 TO ACHIEVE ROAD SPEED OF 68 MPH.

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4.4 16.5" X 7" Q+ BRAKE SHOES W/ AUTO SLACK ADJUSTERS AND DUST SHIELDS 5.0 BRAKE SYSTEM 5.1 ANTI-LOCK AIR BRAKES 5.2 BENDIX AD-9 AIR DRYER WITH PULL CABLES ON ALL RESERVOIRS. 6.0 FRAME AND WHEELBASE 6.1 254" WHEELBASE OR EQUIVALENT FOR BODY SPECIFIED. 191" CA, 96" AF. 6.2 FRONT TOW HOOKS 6.3 11/32" X 3-1/2" X 10-15/16" STEEL FRAME OR EQUIVALENT WITH 120KSI 7.0 FUEL TANKS & EQUIPMENT 7.1 50 GALLON ALUMINUM FUEL TANK 7.2 FUEL WATER SEPARATOR WITH PRIMER 8.0 CAB 8.1 HEAVY DUTY NON-AUTOMOTIVE CAB W CHROME GRILL. 8.2 BUG SCREEN, LH/RH GRAB HANDLES, 8.3 AIR CAB MOUNTS 8.3 DUAL WEST COAST MIRRORS, LH & RH 8" CONVEXMIRRORS 8.4 SINGLE AIR HORN 8.5 HEATER, DEFROSTER, AIR CONDITIONER 8.5 HIGH BACK AIR RIDE DRIVER BUCKET SEAT W/ 2-MAN PASSENGER SEAT W/TOOLBOX UNDERNEATH.

8.7 VINYL SEAT COVERS FOR DRIVER AND PASSENGER

8.8 CRUISE CONTROL, TACHOMETER, BACKUP ALARM, OIL PRESSURE GAUGE

8.9 AM/FM RADIO

8.10 SOLID STATE CIRCUIT PROTECTION & FUSES.

8.11 2 ½LB FIRE EXTINGUISHER AND TRIANGULAR REFLECTORS

8.12 TWO CUP HOLDERS IN DASH

8.13 ELECTRIC WINDSHIELD WIPERS WITH DELAY

9.0 TIRES AND WHEELS

9.1 FRONT TIRES: 11R/22.5 14 PLY WITH HIGHWAY TREAD – 10 HUB PILOT DISC WHEELS

9.2 REAR TIRES: 11R/22.5 14 PLY WITH TRACTION TREAD –10 HUB PILOT DISC WHEELS GENERAL CHASSIS REQUIREMENTS

* TRUCK TO BE WHITE IN COLOR.

* MUST PROVIDE PARTS/WARRANTY/SERVICE WITHIN 120 MILE RADIUS.

* MUST PROVIDE PARTS AND SERVICE MANUALS WITH UNIT.

* MUST PROVIDE STATE AND DOT INSPECTION.

* MUST PROVIDE ON-SITE DRIVER TRAINING AT TIME OF DELIVERY.

* MUST PROVIDE TOWING/ROADSIDE SERVICE WARRANTY FOR 1YEAR

SIDE DUMP TO BE CONSTRUCTED OF HIGH STRENGTH STEEL, PROVIDING A 3:1 SAFETY FACTOR. SIDE DUMP TO BE DESIGNED TO LIFT & DUMP 500LBS.

10.2 SIDE DUMP CARRIAGE TO BE CONSTRUCTED USING A TRACK AND 3" STEEL ROLLER BEARINGS. EACH WITH A STATIC LOAD OF 2500LBS.

10.3 SIDE DUMP BOOM CONSTRUCTED OF HIGH STRENGTH STEEL TUBING.

10.4 SIDE DUMP HOPPER TO HAVE APPROXIMATELY 1 CUBIC YARD CAPACITY. HOPPER TO BE ATTACHED TO THE BOOM BY MEANS OF AN ADJUSTABLE ANGLE SHAFT.

10.5 SIDE DUMP LIFT CYLINDER TO INCORPORATE INTEGRAL HOLDING VALVES. TO PREVENT THE BOOM FROM FALLING IN CASE OF HOSE RUPTURE.

EXTERNALLY MOUNTED HOLDING VALVES ARE NOT ACCEPTABLE.

10.6 CONTROLS ARE SIMI AUTOMATIC. MEANING ONLY ONE FUNCTION WILL WORK AT A TIME FOR SAFETY. THIS ATTACHMENT HAS A DEDICATED HYDRAULIC CONTROL VALVE.

10.7 SIDE DUMP HAS GREASE-ABLE PIVOT POINTS FOR LONGER LIFE.

10.8 SIDE DUMP STORES UNDER THE BODY. THIS ALLOWS THE BODY CAPACITY TO STAY THE SAME.

10.9 SIDE DUMP CAN BE USED WITH A KBF-20H SERIES LOADER AND TKB-1824, TKB-1925, OR TKB-2030