

SPECIFICATIONS

KNUCKLE BOOM LOADER AND TRASH BODY WITH CHASSIS

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.** PROPOSAL INCLUDES DELIVERY, TRAINING OF OPERATORS AND SERVICE PERSONNEL.

LOADER SPECIFICATIONS

1.0 Boom:

- 1.1 Total boom length to be 22ft.
- 1.2 Minimum lift capacity to be 3,000 lbs. @ 22 ft., (including grapple)
- 1.3 Boom Pedestal to be constructed of High Strength Steel with a moment capacity of 110,000 ft-lbs. and shall be mounted between rear axle and cab for maximum stability.
- 1.4 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. The Boom Pivot-Pedestal Assembly shall not exceed 95 inches in height from truck frame (truck frame approx. 40 inches in height). Boom pivot shall be constructed with a safety device.
- 1.5 Boom shall have 360 degrees continuous rotation. A positive locking pin shall be provided to alleviate rotation while transporting.
- 1.6 Boom rotation shall be accomplished by a direct hydraulic swing drive through a slewing (bearing) ring capable of producing 342,000 inch-pounds min. of torque. The motor shall be equipped with both counterbalance and pressure relief valves.
- 1.7 Entire Boom Assembly shall be designed with a tensile strength to provide a safety factor of 3 to 1 at the rated load capacity.
- 1.8 Main Boom and Tip Boom shall be constructed of reinforced High Strength Steel Tube.
- 1.9 Main Boom shall be equipped with mechanical stops to prohibit hydraulic cylinders from bottoming out.
- 1.10 Boom pedestal to be mounted directly to the chassis frame rails. Mounting must include inside frame rail supports at the mounting points.
- 1.11 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.
- 1.12 All boom connections requiring pins shall be equipped with replaceable bushings and heat-treated steel pins with provisions for lubrication.
- 1.13 HYDRAULIC LINES TO TRAVEL THROUGH THE INSIDE OF BOOM FOR SAFE, UNRESTRICTED OPERATION.

2.0 Operator's Station:

- 2.1 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)

2.2 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.

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

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

2.5 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.

2.6 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.

3.0 Trash Grapple\Bucket:

3.1 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.

3.2 Bucket is to be opened and closed by (2) 3½ inch bore hydraulic cylinders with a closing force\“bite” of 4,000 lbs.

3.3 Bucket is to be 4ft. long and capable of opening to 60 inches from lip to lip.

3.4 Bucket shall be fabricated with a bolt on replaceable H.S.H.C. steel cutting edge.

4.0 Hydraulics:

4.1 Reservoir shall be a minimum of 50 gallons. It shall have a dual level/oil temperature gauge on side of tank. An in-tank suction strainer is included.

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

4.3 Main Boom and Tip Boom shall contain pilot operated check valves as an integral part of each cylinder. Bolt on pilot operated check valves will not be permissible.

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

4.5 Control valves shall have a 24 GPM rating at 3,000 PSI and an adjustable relief valve.

4.6 All hydraulic cylinders to be of the “bolt-on head gland” design.

4.7 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 totally uncontaminated oil.

5.0 Power Source:

5.1 A heavy – duty clutch style (Hot Shift) PTO and a heavy duty tandem bi-rotational hydraulic pump which allows for “multiple function control” of the crane functions.

6.0 Throttle Control:

6.1 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.

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

7.0 Outriggers:

7.1 Outriggers shall be extendable to a distance that will resist the tipping moment under maximum rated load, and have pilot operated holding valves.

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

7.3 Outriggers shall be "A" frame style.

The retracted overall dimension shall be approx. 7 ft. 11 inches and the extended dimension (at ground level) shall be approx. 9 ft. 8 inches.

7.4 Outrigger cylinders for stabilizing loader shall be mounted inside telescoping legs. Outrigger cylinders shall have pilot operated check valve to prevent possible leak down.

8.0 Paint:

8.1 Loader shall receive (1) coat of high- grade primer and (2) coats of high-grade enamel paint (manufacturer's standard colors).

1.0 Trash Body:

1.1 30 cubic yard capacity.

1.2 20 ft. body length.

1.3 Body floor shall be made of 1/4" steel 1 solid piece.

1.4 Body walls to be constructed with 10-gauge sheet steel. Wall stiffeners to be 3 inches x 4 inches minimum, 11 gauge formed channels placed on approximately 24-inch centers.

1.5 Body walls shall have a top rail formed from 11-gauge minimum steel in such manner as to encapsulate top end of vertical wall stiffeners and edge of wall sheet.

1.6 Wall stiffeners will be welded to top rail and wall skins and floor bumper rail.

1.7 Front body wall to be 42 inches high with side walls transition from 42 inches at the front to 72 inches high 8 ft. from the front.

1.8 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.

1.9 Body shall have a one-piece door 5 foot with 3 heavy duty hinges with 1-inch diameter pin and allow for lubrication.

1.10 The rear door shall serve as the grapple rest and have a slot 25 inches wide x 12 inches tall. The door shall have a 3/16 "skin with 4-inch x 2-inch x ¼ inch rectangular tubing reinforcement to support

weight of grapple.

1.11 Door latch shall be cam operated from the driver's side and provide a safety lock. A provision shall be made to allow the door to be opened and rotate against passenger side body wall with latch to hold open while dumping body.

2.0 Body Hoist:

2.1 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.

3.0 Lights and Reflectors:

3.1 L.E.D. lights shall be provided. One marker and strobe light on left and right top of rear body posts. a 2 ½ inch marker and 2-inch x 6-inch strobe. Also, provide one light on left and right rear under body for back up and brake/turn in metal box. There shall be 3 marker lights mounted on rear of body centered. All Lighting to be Dot Standards and shall conform to current state and federal standards.

3.2 Reflective safety tape shall be on both sides and on rear of body.

4.0 Paint:

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

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

5.0 Safety Rear Bumper:

5.1 Body shall have a rear safety bumper. The bumper must 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.

6.0 Safety Props

6.1 Two (2) body safety props shall be installed one on each side of the body frame rails.

7.0 Warranty:

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

7.2 Entire unit to have a one Year Parts and Labor warranty and a 1 year structural warranty.

7.3 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.

8.0 Other Requirements:

8.1 18" DEEP X 18" WIDE X 36" LOCKING HEAVY DUTY TRUCK BOX SHALL BE FRAME MOUNTED ON EACH SIDE OF CAB BEHIND OPERATOR PLATFORM.

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

8.3 Two (2) LED WORK LIGHTS MOUNTED ON TIP BOOM

8.4 REAR STROBE UNDER BODY W/GUARD

TRUCK CHASSIS REQUIREMENTS

1.0 Engine

1.1 450 H.P. Inline 6 Cylinder Turbo Diesel Wet Sleeve w/ 1000lb/ft torque or Dry Sleeve. Minimum engine warranty – 24 Months/250,000 Miles

1.2 160 or greater Amp Alternator

1.3 (3) 12Volt 2280 CCA Batteries

1.4 18.7 CFM Compressor

1.5 115 Volt Block Heater

1.6 Engine Brake w Variable geometry Turbo

1.7 Gates Blue Stripe Coolant Hoses

1.8 RH Inboard Frame Mounted Horizontal After-treatment Device w RH Cab Mounted Vertical Tailpipe.

1.9 23-gallon DEF Tank filled 100% full at delivery

1.10 1100 Square Inch Radiator

1.11 Side of Hood Air Intake and
Donaldson Air Cleaner, With Pre-Cleaner

1.12 Battery Disconnect mounted inside cab

2.0 Transmission

2.0 Allison 3000 RDS w/ PTO Provision
and push button shift control on dash. with 6-Speed Overdrive Option.

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 Castrol Transynd Synthetic Transmission Fluid

3.0 Front Axle

3.1 16,000lb Front Axle

3.2 16,000lb Taper Leaf Suspension w/ Shock Absorbers

3.3 16.5" x 6" Q+ Brake Shoes w/ Auto Slack Adjusters

4.0 Rear Axle

4.1 40,000 lb. Rear Tandem Axle, w/ synthetic lube

4.2 40,000lb Variable Rate Multi-Leaf Suspension w/ Helper and Radius Rod

4.3 17N Main Driveline or Equivalent

4.4 Axle ratio to be 5.29 and achieve road speed of 68 mph.

4.4 16.5" x 7" Q Cam Brake Shoes w/ Auto Slack Adjusters

5.0 Brake System

5.1 Anti-Lock Air Brakes

5.2 Bendix AD-9 Air Dryer with heater and Pull Cables on all Reservoirs.

6.0 Frame and Wheelbase

6.1 274" Wheelbase, 210" CA or Equivalent for Body Specified

6.2 Front Tow Hooks

6.3 11/32" x 3-1/2" x 10-3/16" Steel Frame or Equivalent with 120KSI

6.4 Minimum 1,808,400 Frame RBM per rail / Section modulus 15.07 per rail

7.0 Fuel Tanks & Equipment

7.1 80 Gallon LH Aluminum Fuel tank

7.2 Fuel water Separator with Indicator Light

7.3 Fuel Cooler

8.0 Cab

8.0 Heavy Duty Aluminum Non-Automotive Cab with 60 Month / 150,000 Mile Warranty.

8.1 Air Cab Mounts

8.2 2-1/2 " Fender Extension

8.3 Bug screen, LH/RH Grab handles,

8.3 Heated Dual Stainless-Steel West Coast Mirrors w/ 8" Spot Mirrors

8.4 Air Horn Roof Mounted

8.5 Heater, Defroster, Air Conditioner

8.6 High Back Air Ride Driver 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/WB Radio

8.10 Automatic Self-Reset Circuit Breakers

8.11 2 ½lb Fire Extinguisher and Triangular Reflectors

8.12 Two Cup Holders in Dash

8.13 Electric Windshield Wipers with Delay

8.14 12V Power supply in dash

8.15 Tilt and Telescoping steering wheel

8.16 Engine remote interface with preset fast idle

8.17 Dash mounted PTO switch

9.0 Tires and Wheels

9.1 Front Tires: 385/65R22.5 G291 18 Ply with Highway Tread – 10 Hub Pilot Disc Wheels

9.2 Rear Tires: 11R/22.5 G287 14 Ply with Traction Tread –10 Hub Pilot Disc Wheels

General Chassis Requirements

- * Must provide parts/warranty/service within 30-mile radius.
- * Must provide a 24-hour service location
- * Must provide dot inspection.
- * Must provide on-site driver training at time of delivery.
- * Must provide towing/roadside service warranty for 1Year.
- * Selling Dealer must provide Diesel GHG14 and OBD 2015 support for both engine and exhaust systems.

Bidder shall provide a separate quote on chassis per bid specifications equipped with a Telma Retarder.

Bidder may offer a guaranteed buy-back provision at the end of two, three and four years. If buy-back is offered, bidder must list and conditions and/or limitations to their buy-back offer. The buy-back offer may be a factor in determining the lowest and best bid.