

Attachment A New Tandem Axle Chassis

For Outagamie County Department of Recycling & Solid Waste

Chassis Dimensions

- Chassis dimension shall be 186" to 196" from rear of cab to center of rear axle assembly, unobstructed, sufficient to mount hook lift hoist assembly designed to handle containers between 15' to 24' of length.
- The dimension from the center of the front axle to the rear of the cab shall not exceed 68", (Set back axle or set forward axle.)

GVWR-Gross Vehicle Weight Rating

- 66,000 lbs. minimum

Engine

- Detroit DD-13.
- Minimum requirements SAE 395HP at 2,100 RPM
- Gross torque Ft: 1550 LBS at 1,000 RPM minimum
- Engine shall have all standard and specified components of engine manufacturer.
- Engine supplier shall certify that engine manufacturer is in compliance with all applicable local, state and federal standards.
- Engine shall be supplied with a seven (7) year, 150,000 mile extended warranty, including turbo, major fuel and exhaust components, injectors, and water pump components

Engine Accessories

- Provide protective engine shutdown device for high coolant temperature, or low oil pressure, with an audible warning prior to shut down
- Air Cleaner shall be a dry type unit with centrifugal pre-cleaner and a rubber dirt discharge, mounted to provide direct, easy access without disassembly of any other component; Donaldson single-stage 12" Cylco-Flo or equal.
- Engine to meet current exhaust after treatment emissions standards.
- Provide a Horton 2-speed fan clutch, or equal for frequent start/stops
- Provide engine block heater, oil pan heater, and intake heater.
- Provide an engine block heater sufficient for starting engine at -20 degrees

Filters

- DAVCO 487Heated fuel filter, or equal, with water separator with 120 V Pre-Heater
- All fuel/water separators shall be provided in accordance with the manufacturers standards

Cooling System

- Provide radiator with the following features:
 - Pressurized cooling system
 - De-aeration system shall conform to engine manufacturers recommendation
 - Radiator shall be mounted, braced, and insulated against vibration, frame racking and twisting
 - Provide an extended life coolant filter
 - Install permanent antifreeze in system (-34)
 - Low coolant level sensor to warn of low coolant condition to prevent engine damage

Exhaust System

- Header pipe shall be routed to maintain access to the starter and oil filter
- Muffler unit shall be manufacturers standard
- Exhaust stack shall be vertically mounted on chassis and shall extend 80" above chassis frame
- Stack shall terminate with a 90 degree elbow

Transmission

- Allison 4500RDS, 6-speed electronic transmission with Synthetic fluid and control pad mounted on the right hand side of the dashboard
- Transmission temperature gauge mounted in the dash, with sending unit installed in the convertor out line
- Transmission shall allow for installation of a PTO driven hydraulic pump by hook lift installer
- Magnetic transmission oil drain plug to capture meal fragments in transmission oil

Propeller Shafts

- Main shafts shall be truck manufacturers standard units with 1810 u-joints rated for capacity and torque of truck, engine, and transmission

Axles

- Front axle shall be rated at 20,000 lbs, minimum, and shall be provided with a permanent synthetic grease system
- Rear axles shall be rated at 46,000 lbs, minimum, and shall be filled with synthetic fluid
- Rear axles shall be Rockwell RT46-160 with front and rear differential locking system

- Axle ratio shall be set to allow travel on roadway of approximately 68 mph, with engine at peak power. Ratio shall also be suitable for off-road use of loaded truck

Suspension

- Hendrickson HMS-460-54, rated for 46,00 lbs, with shock absorbers

Frame and Chassis

- Provide double wall frame constructed of high tensile steel alloy, rated at a capacity equal to or greater than the GVW (Gross Vehicle Weight) of the vehicle
- All welding of frame components shall be in accordance with AWS structural and welding codes and standards
- Frame shall have a sufficient number of Huck bolted cross members to support manufacturers GVW (Gross Vehicle Weight) rating
- All bolted frame connections shall be made with Grade 8 bolts
- Provide and install front frame tow hooks
- Frame to have 2,500,000 RBM in pounds minimum.

Steering

- Steering system shall be power assisted operation set up for urban driving, with setback axle
- System shall develop adequate mechanical advantage for allowing vehicle to be steered if power system fails
- System shall produce sufficient power to allow the rotation of the front wheels, lock-to-lock, when the vehicle is stopped and engine is at an idle speed, and vehicle is fully loaded to front axle capacity

Brakes (Service)

- S cam front and rear brakes with extended life shoes
- System shall be manufacturers standard system and designed for the rated GVW (Gross Vehicle Weight)
- System shall be rated for stopping fully loaded vehicle in accordance with all F.M.V.S.S (Federal Motor Vehicle Safety Standards)
- Air compressor shall be rated at 15.9CFM (Cubic Feet per Minute), minimum
- Provide with Bendix AD-9 air dryer and moisture separator
- Truck shall be equipped with anti-lock brake system and Heldex slack adjusters
- Chambers for service brakes raised index on rear axles with Anchor lock chambers
- Braided air lines routed for maximum protection

Wheels

- Provide hub piloted 10 bolt steel wheels with outboard brake drums consistent with GVW (Gross Vehicle Weight) rating of vehicle
- Rims shall be 29807(front) and 28828(rear), powder coated

Brakes (Emergency Spring Brake)

- Provide a modulated emergency brake system that will automatically actuate with the loss of reservoir pressure
- System shall be a diaphragm type; Anchor Lock or equal
- Provide a reservoir of sufficient capacity to provide a minimum of three complete releases of spring brakes
- Control shall be by means of a dash-mounted push/pull Anchor Lock control valve, or equal.
- Provide an audible Low Air Pressure device and a labeled dash mounted warning light

Tires

- Front tires shall be Goodyear G296, 425/65/22.5, or approved equal
- Rear tires shall be Goodyear G622RSD, 11R22.5, or approved equal

Electrical System

- Vehicle system shall be 12V, negative ground.
- Provide (3) wet cell batteries rated at 2700 CCA (Cold Cranking Amps) with brushless alternator.
- System shall include a 160 amp alternator, minimum
- Wiring shall be of adequate size to carry electrical load without excessive voltage drop
- All wiring shall be routed and secured to prevent damage from abrasion and heat
- All wires shall be color coded, with wire color being continuous throughout each individual circuit
- All main circuits shall be protected by automatic resetting type breakers
- Electrical service center shall be located within the cab
- All cab wiring shall be terminated at the service center including relays, breakers, control wiring and connectors
- A voltage disconnect switch shall be provided to allow welding on body without damage to the truck/transmission electrical systems

Fuel Tank

- Provide (1) 75 gallon, minimum capacity, aluminum fuel tank mounted on the driver's side, not extending beyond the rear of the cab
- Provide stainless steel straps for vehicle mounted fuel tank.
- Tank shall be equipped with a moisture drain plug

- Provide 10 gallon DEF tank, minimum.

Cab

- Conventional, air supported, cushioned cab, with interior equipped with a cloth covered headliner and lower back panel with the maximum sound deadening material available
- Provide left and right mounting step. Steps shall be non-slip surfaced.
- Maximum height to the step, from ground, shall not exceed 16"
- Provide left and right fender mounted west coast style mirrors, heated, spring loaded, and break away with convex surfaces bolted to the mirror support.
- Mirrors shall have sufficient mounting to withstand shock and vibration of vehicle operation
- Mirrors shall be a moto style with remote control
- Provide cab mounted grab handles at both doors of vehicle, plus (1) additional right side, dash mounted handle
- Provide mounted "toolbox" on Driver side.
- Adjustable Steering Column-Tilt/Telescope
- 6 extra cab switches (Spares)
- Cup holders and power windows

Cab Accessories

- AM/FM radio with dual speakers
- Heavy Duty National cushion air, cloth covered, high back, air ride seat at drivers location, and standard mount passenger seat
- Driver's seat shall be equipped with armrests
- Seat belts shall be equipped with roll-up devices
- Windshield wipers shall be controlled with adjustable speed controller. Provide washer system for entire width of windshield
- Provide heater with highest capacity available, and provide defroster ducting to both sides of windshield through the dash
- Provide interior lighting suitable for driver to perform required form entry and recording
- Door handles shall be flush mounted or rearward facing to prevent snagging upon entry or exiting
- Cab shall be full rust-proofed, with lifetime rust through warranty, Ziebart, TufKote, or equal

Provide air-conditioning system, controlled through heater control system

Instruments and Controls

- Provide the following dash mounted gauges:
 - Water temperature
 - Tachometer
 - Speedometer, matched to axle ratio and tire size, with odometer
 - Air gauge

- Transmission temperature gauge
- Voltmeter
- Fuel Level Gauge
- Engine Oil Pressure
- Engine Coolant Temperature
- (2) Air Pressure Gauges
- DEF Level Gauge
- Self-cancelling turn signals with audible warning when active for longer than 60 seconds
- 4-way flashers with audible signal
- Backup Alarm (107 dB)
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Paint

- Cab of vehicle shall be painted a single color, selected from manufacturer's standard selection, with a preference for white or red
- Frame rails shall be gloss black

Spare Parts

- One set of complete line set tickets with all special equipment
- (1) complete set of filters for the following:
 - Engine
 - Transmission
 - Air conditioning
 - Air Compressor
 - Cab Air Intake

Publications

- (1) CD Parts Manual
- (1) CD or Published Service Manual, with emissions information and wiring diagrams, for chassis, transmission and engine
- (1) Operator's Manual
- Warranty Information in separate binder or sleeve

Technology Requirements

- Manufacturer shall provide on-line service manuals and parts manuals
- On-line subscription shall include engine computer software for laptop, and shall provide data cable required for connection

- Updates shall be available for the life of the vehicle under the County's ownership at no additional cost to the County

Training

- Manufacturer shall provide minimum of (4) hours of training on the engine and other truck related programs.
- Training shall occur at Owner's facility, and shall be conducted when scheduled by Owner

Work Standards and Conditions

- All work shall be performed by factory personnel, or factory authorized service personnel, capable of verifying continuance of warranty.