

REAR LOADER REFUSE TRUCK TECHNICAL SPECIFICATIONS

TRUCK CAB & CHASSIS

1. GENERAL: The cab and chassis shall be new and unused, an International 7400, or Peterbilt model 340 or Sterling L-8513, or equivalent. The chassis must be designed for heavy duty municipal use and have a setback steering axle package to provide the best turning radius possible. Nothing listed in the technical specification is intended to exclude any cab and chassis manufacturer that can meet the requirements. The manufacturers listed are only to provide a standard by which to judge other products.

Intended service: 20 yard Rear Loader Refuse Truck
Front axle capacity: 14,000 lbs. Minimum rating
Rear axle capacity: 23,000 lbs. Minimum rating
Total GVW capacity 37,000 lbs Minimum rating

Fully Comply _____ Exception _____

2. ENGINE: Paccar PX-8 or International DT466 or equivalent capable of producing a minimum of 285 Hp and 800 lb-ft torque at manufacturers specified RPM. Chassis is to have onboard electronics for simple service and diagnosis.

Fully Comply _____ Exception _____

3. ENGINE EQUIPMENT:

- a. Engine to have 2009 EPA Emission Certification
- b. Oil check and fill: engine mounted
- c. Engine shall be wet sleeve design
- d. Alternator shall be minimum 130 amp
- e. Batteries: Minimum of 3 12 volt maintenance free 2100 CCA
- f. Air filter: Minimum of single element type required
- g. Battery box: conventional style, Battery shut-off to be located at battery box
- h. Compressor: Bendix AD-IP or approved equivalent, properly sized to engine and chassis
- i. Compressor discharge line: Teflon
- j. Fan Drive: Horton Drivemaster on/off type or approved equivalent
- k. Engine Protection: electronic engine-integral warning system with de-rate function
- l. Muffler: must have a safety shield if routed up along cab or if mounted in an area prone to accidental touch.
- m. Fuel Filter: spin-on type
- n. Oil filter: full flow
- o. Engine coolant: extended life with protection to -30 F
- p. Silicone coolant hoses
- q. Radiator: appropriately sized for engine and approved by manufacturer
- r. Constant torque hose clamps to be used on coolant hoses 1-3" diameter
- s. Engine Heater: 1000W/110-120v
- t. Engine heater receptacle to mounted and accessible
- u. Starter: 12 volt Delco MT style
- v. Battery box shall have a removable cover
- w. All fast throttle controls will be interfaced with the electronic fuel delivery of the engine
- x. Coolant filter/conditioner shall be supplied

Fully Comply_____ Exception_____

4. TRANSMISSION & EQUIPMENT

- a. Transmission: Allison 3500RDS (Rugged Duty Service) appropriately sized for engine, six speed electronic, (6) forward gears and (1) reverse gear
- b. Six speed transmission programming
- c. Magnetic drain plug
- d. Shift lever: Electronic pushbutton on dash
- e. Transmission cooler: Heavy duty water to oil type
- f. Must have vehicle interface wiring

- g. Must have PTO provisions
- h. Fluid: Allison Transynd synthetic

Fully Comply_____ Exception_____

5. FRONT AXLE & EQUIPMENT

- a. Meritor MFS16143A or Dana Spicer or equivalent with a minimum of 14,000 lbs. capacity
- b. Front brakes: Meritor cam 16.5X5 Q+ cast spider double anchor fabricated
Shoe with dust shields
- c. Front brake linings: Non asbestos
- d. Front oil seals: Chicago-Rawhide Scotseal Plus XL or equal
- e. Front Brake Drums: Cast iron outboard-mounted
- f. Front hubcaps: Vented viewable see through oil type
- g. Grease packed bearings with metal caps acceptable
- h. Front slack adjusters: Factory approved for chassis, automatic self adjusting type
- i. Power Steering Pump: Appropriately sized for engine and chassis
- j. Front suspension: 14,000 lbs minimum capacity rating
- k. Front Shock absorbers

Fully Comply_____ Exception_____

6. REAR AXLE & EQUIPMENT

- a. Meritor RS-23-160 or Dana Spicer S23-170D or equivalent with a minimum of 23,000 lbs capacity
- b. Rear axle ratio must be capable of reaching a minimum highway speed of 65 MPH within an acceptable RPM range
- c. Rear axle housing: Heavy duty Iron
- d. Differential lock: Full locking rear axle with dash mounted switch and indicator lamp
- e. Main Driveline: Heavy duty sized for chassis with half round yokes
- f. Lubrication: Synthetic, specified weight determined by manufacturer
- g. Rear brakes: Meritor cam 16.5X7 Q+ cast spider, fabricated shoe with dust shields for Refuse use
- h. Rear brake linings: Non asbestos
- i. Rear brake drums: Cast iron outboard-mounted
- j. Rear axle oil seals: Chicago- Rawhide or equal

- k. Parking brake chambers: Air actuated, spring loaded, long stroke with control button mounted on dash
- l. Rear slack adjusters: Factory approved, automatic self adjusting type
- m. Rear suspension: 23,000 lbs minimum capacity rating

Fully Comply_____ Exception_____

7. BRAKE SYSTEM EQUIPMENT

- a. Brake package: Full air
- b. ABS 4 channel 4 sensor
- c. Chassis air lines: reinforced nylon, fabric braid and wire braid depending on location
- d. Brake relay valve with 5-8 psi crack pressure
- e. Air reservoirs: Steel, painted
- f. Air tank drain valves: Pull cables on all air tanks

Fully Comply_____ Exception_____

8. FRAME AND WHEELBASE

- a. Wheelbase: Maximum of 208"
- b. Rear overhang: 75" or adequate amount to allow body installer to cut any excess back to a custom measurement for installation of body. No body installations requiring the addition of rear frame beyond factory standard will be omitted from chassis
- c. Frame: Heat treated steel, reinforced with minimum 110,000 psi yield strength, with RBM of not less than 3 million per rail, standard heavy duty cross members and be designed for the intended GVW and use of the chassis.
- d. Frame must be one full length from front to back
- e. Front frame extension: To be integral
- f. End of frame: Square cut
- g. The frame shall carry the manufacturers full warranty

Fully Comply_____ Exception_____

9. CHASSIS EQUIPMENT

- a. Standard full length manufacturer bumper or if body installer is providing a custom front bumper as part of the body assembly, front bumper may be eliminated
- b. Front license plate mount or bracket: included

- c. Front bumper may be chrome or painted
- d. Chassis fasteners shall be huck bolts

Fully Comply_____ Exception_____

10. FUEL TANK AND EQUIPMENT

- a. Aluminum with a minimum of 60 gal. capacity
- b. Fuel tank cap: Standard non locking
- c. Fuel tank and band finish: Plain
- d. Hoses: Standard manufacturer approved for fuel
- e. A fuel/water separator shall be included

Fully Comply_____ Exception_____

11. FRONT TIRES, HUBS AND WHEELS

- a. Goodyear G149 or Bridgestone, or approved equal, 12R 22.5 16 ply tubeless type
- b. Front wheels: 2 or 5 hand hole 10 bolt hub pilot 22.5" X 9.00" steel disc
- c. Front hubs: High capacity
- d. Front wheel nuts: Hub pilot with flat flange
- e. Spare mounted front tire complying with the above shall be included

Fully Comply_____ Exception_____

12. REAR TIRES, HUBS, AND WHEELS

- a. Goodyear G-244 or Bridgestone or approved equal, 11R22.5 16 ply tubeless type
- b. Rear hubs: Iron
- c. Rear wheels: 2 or 5 hand hole 10 bolt hub pilot 22.5" X 8.25" steel disc
- d. Rear wheel nuts: Hub pilot with flat flange
- e. Properly sized 12R22.5 tires and wheels will also be accepted if offered as the manufactures standard equipment
- f. Spare mounted rear tire complying with above shall be included

Fully Comply_____ Exception_____

13. CAB EXTERIOR

- a. Conventional style galvanized steel or aluminum
- b. Hood: Composite fiberglass
- c. Cab mounts to be rubber or air ride
- d. Both dual electric horn and air horn shall be provided

- e. Cab shall be equipped with heated dual retractable Western type mirrors; passenger side shall have an additional “look-down” convex mirror. The mirror shall be located in such a manner as to view the area directly at or below the passenger side door
- f. Stop/tail/turn lamps at end of frame
- g. Door window regulators: Manual or power
- h. Key and lockset: All locks keyed the same
- i. Marker lights: Small aerodynamic
- j. Headlights: Standard Halogen from vehicle manufacturer
- k. Hood shall be of tilt design
- l. The entry and egress shall consist of self cleaning steps and grab handles on each side for the driver and passenger to utilize
- m. The steps shall be a minimum of 4 inches wide, and the grab handles must be large enough to be safely grasped by one wearing heavy duty work gloves.
- n. Cabs with raised or bubble roofs are not acceptable
- o. Cab and lighting must meet DOT Federal Motor Carrier Safety Administration requirements
- p. Cab width to be a minimum of 80” and height from floor to roof to be a minimum of 56”

Fully Comply_____ Exception_____

14. CAB INTERIOR

- a. Color: Gray or tan
- b. Ash tray and cigarette lighter: Dash mounted
- c. Factory installed heat/defrost/ air conditioning
- d. A/C compressor: Appropriately sized for engine and cab
- e. Cab shall have seating to safely accommodate (1) driver and (2) passengers
- f. Shoulder room to be a minimum of 70” and hip room to be a minimum of 65”
- g. Door locks: Manual or power
- h. Driver seat to be air ride design
- i. Air condition to have built in shut down in event of failure to control damage
- j. Shall have left and right sunvisors
- k. Am/Fm Radio
- l. Windshield shall be tinted
- m. Chassis manufacturer supplied seat belts
- n. Steering wheel: Fixed or adjustable
- o. Steering wheel: !8”
- p. All air lines and electrical wiring to be routed in a secure and safe area to prevent damage and wear
- q. Interior dome/courtesy lights shall be furnished

- r. Door panels to be properly covered with pull handle
- s. Electrical fuses: Manual reset or automatic self-reset circuit breakers
- t. Storage pockets shall be provided for items such as paperwork, maps, toll tickets, gloves, etc
- u. Cab shall have adequate vents and ducts for efficient and proper heating and cooling of the cab
- v. Rubber/vinyl floor matting with insulation shall be furnished
- w. 5lb fire extinguisher shall be furnished
- x. Triangular reflector kit shall be furnished
- y. 12 volt negative ground electrical system

Fully Comply_____ Exception_____

15. INSTRUMENT PANEL AND CONTROLS

- a. Gauge package: Electronic
- b. Air restriction indicator mounted on air intake or dash
- c. Cruise control
- d. Starter control to be key-controlled, no push button
- e. Low air pressure warning: Buzzer and light
- f. Diagnostic interface connector shall be mounted in an accessible area
- g. Gauges shall consist of: Coolant temp, oil pressure, primary air pressure, secondary air pressure, rear axle temperature, transmission temperature, battery voltage, fuel level, speedometer (MPH) and tachometer
- h. An engine hour meter shall be furnished
- i. Warning light bar shall be mounted in gauge cluster
- j. CB terminal wiring
- k. Radio antenna
- l. Windshield wiper: 2 speed with variable intermittent settings
- m. Turn signal flasher: Heavy duty

Fully Comply_____ Exception_____

16. PAINT

- a. Paint type: One color solid
- b. Paint color: Dupont NO789HN Omaha Orange or equal
- c. Chassis color: Black polyurethane
- d. Front wheel color: White
- e. Rear wheel color: White

Fully Comply_____ Exception_____

17. MISCELLANEOUS

- a. Chassis must be fully capable of accepting any and all upfitting and equipment specified in this bid with no major modifications to any major components including but not limited to frame and wheelbase measurement changes. Any chassis that has had major modifications performed (such as those aforementioned) to accept body equipment, unless specifically noted in the bid specification, will not be accepted. It is the sole responsibility of the bidder to ensure that the chassis is a factory standard unit and compatible with the intended body to be installed.
- b. Vehicle must be delivered to the owner ready for service
- c. Complete set of service/repair manuals for chassis to be furnished at delivery
- d. (1) complete set of filters for engine, chassis, and body to be provided
- e. A (5) year 150,000 mile engine warranty shall be provided
- f. A (5) year unlimited mile transmission warranty shall be furnished
- g. All units must be guaranteed to be free from defects in materials, design and workmanship for 2 years/unlimited miles from the date of final delivery excluding normal wear items
- h. One complete set of service and parts manuals for the body shall be supplied at delivery

Fully Comply_____ Exception_____

20 CUBIC YARD REAR LOADING BODY, PACKER, DUAL CART TIPPERS

GENERAL: It is the intent of these specifications to describe the minimum requirements for a refuse collection body or rear loading. The capacity of the said body shall be 20 cubic yards excluding the hopper. The refuse body shall meet the minimum specifications that follow. All bidders shall attach a statement that the unit offered meets exactly, or exceeds these specifications, or list any exceptions fully and accurately. The successful bidder shall supply features which are regularly furnished as standard with the offered unit. The body shall conform in strength, quality of material and workmanship to that provided by the best manufacturing and engineering practices in the industry. The equipment shall be supplied new and unused, and ready for operation. Complete integration of the chassis and cab is the responsibility of the bidder. The equipment supplied shall fully conform to ANSI Safety Standards

CAPACITY

1. The packer body shall have a **MINIMUM CAPACITY OF 20 cubic yards** excluding the hopper
Fully Comply_____ Exception_____

BODY CONSTRUCTION

1. The body sides to be fabricated from 11 gauge high tensile steel,
MINIMUM
2. The body roof to be fabricated from 11 gauge high tensile steel,
MINIMUM

3. The body floor shall be 10 gage high tensile steel, MINIMUM

Fully Comply_____ Exception_____

TAIL GATE CONSTRUCTION

1. Tailgate sides shall be 10 gauge high tensile steel, MINIMUM
2. Hopper floor shall be ¼” high tensile steel minimum
3. Self cleaning riding steps on each side of the tailgate are to be provided along with safety grab handles
4. Tailgate to be top hinged, raised by two double or single acting cylinders rated for such usage
5. Tailgate shall be equipped with rubber gasket to achieve a water tight seal
6. Tailgate must be equipped with a tailgate ajar switch with a light fixed in the cab an audible alarm which complies with ANSI standards
7. The tailgate shall have approved proper locking mechanisms tailgate loading sill must me at a reasonable height to allow for easy loading of debris, and allow for use of a dumpster bar and cart tipper assembly

Fully Comply_____ Exception_____

PACKING MECHANISM

1. Packing controls shall be mechanical, lever operated on right hand side of tailgate
2. Control handles must be dual lever design and have the capability to stop, start, and reverse the direction of any function at any time
3. Total packing time not to exceed XX seconds
4. Packer face panel shall be a MINIMUM of ¼” high tensile steel
5. The packing mechanism shall have overload protection
6. Packer must have an interrupt position to avoid a pinching action
7. Packer may be free floating design, or utilize slides or rollers for movement
8. Packer cylinders: (2) 4” double acting MINIMUM appropriately sized for body
9. Capable of packing an average of 800 lbs per cubic inch based on average household usage
10. All cylinders to be located in a safe area that does not come in contact with refuse

Fully Comply_____ Exception_____

EJECTION SYSTEM

1. Load shall be discharged by means of a positive ejection system. dumping or rising of body not acceptable
2. The ejector face panel to be a constructed of 11 gauge high tensile steel MINIMUM. It must withstand the packing mechanism forces and the ejection of highly compacted refuses
3. Ejector panel shall travel full length of the body and be equal in area to the cross section dimensions of the body
4. The ejector panel shall not extend past the opening at the rear of body in such a way that would cause damage if the tailgate was closed with the panel fully rearward

Fully Comply_____ Exception_____

CONTROLS

1. Ejector and tailgate controls shall be located on the front left hand side of the body
2. An automatic throttle advance shall be provided
3. Hot shift PTO control shall be cab mounted within reach of driver
4. Push button buzzer shall be located on both sides of tailgate to signal driver

Fully Comply_____ Exception_____

HYDRAULIC SYSTEM

1. A complete hydraulic system shall be provided
2. PTO must run quietly. Gearing shall be selected for minimum engine RPM compatible with recommended pump RPM for correct operating pressure and rates of flow for the refuse body. Pressures set above manufacture limits to obtain correct operation will not be permitted
3. Hydraulic pump shall be designed to run continuously with peak loading at frequent short intervals
4. Pump GPM shall be sized appropriately for refuse body and intended use
5. Hydraulic system shall incorporate adjustable relief valves to protect all components from excessive pressure and overloads
6. All hydraulic tubes and lines are to be securely clamped to prevent vibration, abrasion, and excessive noise
7. All hoses shall conform to S.A.E. standards for designed pressure
8. All cylinder rods to be chrome plated to increase durability
9. PTO shall be Hot Shift type for Allison transmission

10. Hydraulic reservoir shall be capable of supplying adequate capacity to run all functions on the vehicle at a 15% grade
11. All cylinders to operate without direct contact with collected refuse
12. Tank shall be complete with screened fill pipe and cap, filter breather, oil level sight gage and shut off valve
13. The hydraulic system shall be properly protected by a filter system designed and approved for unit.
14. All bushing and pin wear points shall be equipped with grease fittings

Fully Comply_____ Exception_____

LIGHTING AND ELECTRICAL

1. All body lighting and reflectors shall comply with D.O.T. and FMVSS #108 standards
2. Wiring harness to be in round convoluted soft conduit, and consist of automotive type seal connectors
3. A back up alarm conforming to ANSI standards must be provided
4. Lighting shall consist of adequate clearance lights, (2) stop/tail lights, (2) turn signal lights, (1) license light MINIMUM
5. Body shall also have a safety lighting system for the workers. The system shall consist of amber colored flashing lights, may be a strobe or LED system
6. Where ever possible, the lights shall be plug in type, grommet mounted, and shock resistant
7. Adequate, approved back up light system shall be provided

Fully Comply_____ Exception_____

PAINTING

1. Body to be cleaned, deburred, weld spatter and slag removed. No Sand, shot or glass air blasting shall be permitted to eliminate contamination and possible damage to bearing or pin surfaces and possible distortion of higher gauge sheet materials used on body
2. Color to be OMAHA orange

Fully Comply_____ Exception_____

REFERENCE MATERIALS

1. Bidder shall provide copies of manufacturers latest brochure and specifications.

2. A complete set of parts, service, and operators manuals shall be Supplied
3. Bidder shall reference all local (NJ, PA, DE) users of such unit being offered

Fully Comply_____ Exception_____

DUMPERS AND TIPPERS

1. Hydraulically operated kick bar dumper for 1-3 cu yd ANSI type refuse containers, includes latches and can kick bar
2. Dual (2) Perkins model D6226 or equivalent cart tippers to be installed on the rear of hopper

Fully Comply_____ Exception_____

WARRANTY

1. The rear loading body system shall be warranted directly by the Manufacturer against defects in material or workmanship for a period of one full year. Warranty to be 100% parts and 100% labor
2. Warranty to be stated in writing and attached to bid offering

Fully Comply_____ exception_____

STATE WARRANTY SERVICE LOCATION _____

MANUFACTURER TRAINING

1. Manufacture to supply a Factory Service Representative with system to conduct an operation, maintenance, and service school on the equipment.

Fully Comply_____ Exception_____

To assure delivery of a proven and reliable system to meet the needs of the township, all of the following will be taken into consideration in evaluation of bids: Servicing dealer experience, local installations, local availability of parts and service and past performance.

