



## **Specs for Used Road Tractor**

The Missouri Dept. of Transportation, District 3, is seeking a **2001** or newer three-axle tractor, to pull a belly dump trailer, 50-ton equipment trailer, and a portable bituminous mixer plant. This tractor shall have less than **500,000** miles.

### **Engine**

Engine shall be a domestic 4-stroke, in-line 6 cylinder diesel, with replaceable (wet) cylinder liners, and turbocharged with an air-to-air intercooler. Engine shall have an electronic control system, which shall be capable of limiting the maximum road speed of the unit.

Displacement:	732 cubic inches minimum
Gross HP:	430 @ 2100 rpm minimum
Gross Torque:	1450 ft. lbs. minimum
Fan:	Air operated, positive on-off temperature controlled clutch type, with automatic mechanical lockup for loss of air pressure. Viscous drives and electric clutches not acceptable.
Exhaust:	Vertical RH stack, shielded along full height of cab. Dual stack exhaust acceptable.
Block Heater:	120 volt, 1250 watts minimum, receptacle to be permanently mounted near the drivers door.
Engine Brake: (Preferred but not required)	Three-stage, compression type, cruise control activated.

### **Transmission**

Transmission shall be manual, with a minimum of 9 forward speeds. A transmission with 10, 13, or 15 forward speeds is acceptable. Clutch shall be a twin plate ceramic, 14" minimum, dampened discs.

Low Gear Ratio:	12:1 minimum
Overdrive Ratio:	.75:1 minimum

### **Drive Axle Ratio**

Drive axle ratio shall be between 3.70:1 and 4.33:1

### **Chassis**

GCWR:	80,000 lbs. minimum
Wheel Base:	Wheel base and C/A dimensions shall be suitable for installation of an air up/down pusher axle



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Steer Axle:	13,200 lb. minimum w/wet (oil) hubs 13,200 lb. minimum parabolic springs Set forward axle preferred, set back axle acceptable.
Drive Axles:	46,000 lb. minimum tandem, power divider w/air actuated lockout. 4-bag air suspension, 8-bag acceptable.
Wheels:	Hub piloted, 10 bolt Budd style wheels at all positions. Dual wheels at all drive positions. Super singles not acceptable.
Tires:	Steer- 11R22.5 tubeless radials, highway tread, matching. Drive- 11R22.5 tubeless radials, highway or all-season tread, matching.  Tread shall be sufficient to pass inspection on all tires.
Brakes:	Cam actuated drum brakes, all wheels. Spring set parking brake chambers, all drive wheels. Automatic slack adjusters, all wheels. 4 channel anti-lock brake system, Bendix preferred. Heated air dryer w/ automatic purge valve and replaceable desiccant cartridge.
Steering:	Power, integral hydraulic.
Fuel Tank:	Tank(s) shall be constructed of aluminum. Steel tanks will not be accepted.
Trailer Hookup:	Sliding 5 <sup>th</sup> wheel w/cab controlled air lock. Must be able to center pin between drive axles. 12' coiled blue service air hose w/gladhand. 12' coiled red emergency air hose w/gladhand. 12' coiled trailer lighting cable w/7-pin plug. Cab mounted hose tender for securing hoses and cable when not in use. Must be compatible with trailer ABS.
Cab	Conventional style, day cab. Air Conditioning Tilt Steering Seat air suspension, high back w/adjustable seat cushion and backrest. Wipers Heavy-duty windshield wiper system w/intermittent operation. Mirrors west coast style, heated, power RH preferred.



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### Additional Requirements

1. Entire unit must be clean, and in excellent operable condition.
2. All equipment on the unit must function properly.
3. All systems must be free of leaks.
4. Paint must still have good gloss, and full coverage, with minimal flaking due to road debris.
5. Body damage, if any, must be minimal. Body rusting is not acceptable.
6. Interior must be clean, and in good condition, with no tears or damage.
7. Unit may, at MoDOT's discretion, be required to pass a chassis dyno test. If the unit fails, MoDOT will not be responsible for charges associated with the test.
8. Unit must meet all applicable FMVSS.
9. A documented repair and maintenance history shall be provided for review.
10. Unit shall be delivered with operators manuals for all supplied components.
11. MoDOT reserves the right to set up a visual inspection **and/or test drive** of proposed unit before acceptance for purchase.

### Installed Equipment

The final configuration of this unit will include the following installed equipment:

Hydraulics:	Transmission mounted, 12-15 gpm hydraulic pump w/relief valve 25-gallon reservoir Cab controlled PTO Hoses and couplers to match 50-ton trailer. Hose length and coupler configuration available upon request.
Headache Rack:	Frame mounted aluminum cab protecting bulkhead with lockable chain rack.

### Warranty

Unit shall be covered by the following warranty conditions:

1. For the first 30 days after delivery, or first 4000 miles after delivery, whichever comes first, expense for any repairs necessary due to failure of any component as delivered shall be the sole responsibility of the successful bidder.
2. For the period of 31 through 180 days after delivery, or 4001 miles up to 24,000 miles, whichever comes first, expense for any repairs necessary due to failure of any component as delivered shall be divided equally between MoDOT and the successful bidder.

Warranty terms of installed equipment shall be manufactures warranty, or the terms listed in items 1 and 2 above, whichever is greater.



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**The Missouri Department of Transportation Commission reserves the right to waive technicalities and to reject any or all bids and no bid is final until formally accepted by the Commission.**