

SPECIFICATIONS

Multipurpose Excavator

The following specifications constitute the characteristics of the machinery to be bid on:

Specifications for Multipurpose Excavator

It is the intent of this specification to describe a 2007 carrier mounted, single engine, full hydraulic telescoping boom excavator with no more than 200 hours, capable of excavating, grading, sloping, backfilling, etc., equivalent to a Gradall model XL3100. The unit shall be current production and the manufacturer's printed literature shall be submitted with the bid. Bidder to be the authorized dealer of the unit bid.

The excavator shall consist of a revolving upperstructure mounted on a rubber tire carrier complete with full hydraulic powered remote control as follows:

Upperstructure:

1. Rotating Structure

The upperstructure shall be supported on the carrier by a swing bearing and shall be capable of continuous swing at not less than 8 RPM. The counterweight shall weigh not more than 5500 pounds and the tail swing shall not exceed 7'6". The swing system shall incorporate a spring set, hydraulic release swing parking brake. Anti-slip paint is required on all walking surfaces.

2. Boom

The boom shall be triangular in cross section and shall consist of a main section and a telescoping section. Adjustable boom rollers shall be furnished on both boom sections. The telescope section shall be equipped with a two-position quick-change bucket adapter and shall telescope hydraulically through a distance of not less than 11'. The boom assembly shall be supported by a cradle that provides for the tilt of the entire boom assembly and attachment through an arc of not less than 32° and lower than 220° about its longitudinal axis. The boom shall rise through an arc of not less than 32° and lower not less than 75°. The attachment shall open and close through an arc of not less than 165°.

3. Operating Range & Capacity

The operating range without boom extensions shall be as follows when equipped with 30" excavating bucket:

Maximum surface reach, not less than	27'5"	
Minimum reach for clean up, not more than		11'4"
Maximum digging depth, not less than	19'8"	
Maximum dumping height, not less than		15'11"
Maximum working height with bucket below grade, not more than		13'2"
360° lift capacity on rubber @ 20' radius, 5' above grade not less than		4615#
360° lift capacity on rubber @ 24'4" radius, 5' above grade not less than		3310#

4. Hydraulic System

Power for the hydraulic system shall be supplied by the carrier engine. There shall be two piston pumps providing not less than 65 GPM @ 4100 PSI. The pumps shall be equipped with an automatic disconnect. The system shall provide for simultaneous boom, swing and remote functions, quick disconnect type pressure check ports, minimum 45 HP swing motor, minimum 18 HP tilt motor, 2 remote drive motors with minimum 65 combined HP, appropriate relief valves, oil cooler and filter with service indicator. The pressurized reservoir shall be of minimum 35-gallon capacity and shall be equipped with sight level gauges. System operating pressure shall not exceed 4100 PSI.

5. Cab & Controls

The operator's cab shall be all weather with safety glass windows and skylight. The cab shall be complete with front window that rolls overhead for storage, wiper/washer, four-way adjustable seat, acoustical treatment, signal horn, filtered fresh air heater, defroster and air conditioning. The controls shall be self-centering deadman type consisting of 2 hydraulic joysticks mounted on the armrests and one rocker switch for all upperstructure movements. Engine controls shall include key type ignition switch with neutral start and throttle. There shall be warning lights for low air, engine maintenance, hydraulic filter condition and level. There shall be an automatic engine shutdown for low oil pressure or high coolant temperature. Remote carrier propel, steering and automatic digging brake shall be controlled by two foot pedals. There shall be a rocker switch on the control panel to select high or low speed for the remote travel. The hydraulic remote control system be complete with an emergency brake control and travel alarm. An am/fm radio to also be included.

Carrier:

The carrier shall be a diesel powered heavy-duty 4X2 unit specifically designed for the excavator described above and for use without stabilizers. It shall have a wheelbase of not less than 156", a minimum gross axle capacity rating of 37,600#, and a highway travel speed of 54 MPH when equipped with the standard wheels and tires.

1. Frame

The frame shall be 48" wide, welded plate design of 50 Ksi material.
Front and rear tow hooks

2. Engine

The carrier shall be powered by an EPA automotive certified 6 cylinder, 4-cycle turbo charged electronic controlled diesel engine of not less than 386.9 CID producing not less than 190 gross HP at 2300 RPM. The engine shall be 2004 EPA/CARB Automotive certified. It shall be complete with dry type air cleaner with ejector valve and service indicator, spin-on fuel filter/water separator, vertical canister style lube filter, minimum 100 AMP alternator, and minimum 70 gallon fuel tank. Unit to also include a block heater.

3. Transmission

The carrier shall be equipped with an Eaton Roadranger RTX-14609B, 9-speed forward, 2-speed reverse transmission. A neutral start switch shall be provided.

4. Axles & Suspension

The front axle shall be a Meritor FG-941 rated at 14,600#. The front suspension shall consist of minimum 8 leaf springs and shall incorporate automatic lockout cylinders.

The rear axle shall be a Meritor RS23-160 rated at 23,000# with a 7.17 ratio, single reduction and operator controlled differential lock.

5. Brakes

The carrier shall be equipped with four wheel cam actuated air brakes with auto slack adjusters. The rear brakes shall be Meritor "P" Series Cam-Master. The front brakes shall be Meritor "Q" Series Cam-Master. The system shall also incorporate spring set emergency and parking brakes. The air system shall be complete with a heated desiccant type air dryer.

6. Wheels & Tires

The carrier shall be equipped with hub piloted disc wheels with demountable rim and minimum 15X22.5 front tires, with highway tread 10X20 dual rear with traction tread.

7. Cab & Controls

The carrier cab shall be isolated from the frame on rubber mounts and shall include tinted safety glass windows – sliding both sides; air-suspension seat with seat belt, windshield washer and wiper, fresh air type heater and defroster, and dome light. The instrument panel shall include, at minimum, backlighted gauges for engine temperature and oil pressure, dual air tank pressures, fuel level, voltmeter, hourmeter, speedometer with odometer, and tachometer. An engine shutdown system shall be controlled by the engine electronics. It shall be complete with engine monitor lights with diagnostic switches. Indicator lights for engagement of pump and rear axle differential lock will be provided.

The carrier shall be complete with West Coast style mirrors system with plane and convex mirrors, Halogen headlights, tail lights, brake lights, back up lights, identification light clusters – front and rear, directional lights, four-way hazard lights, back-up alarm, full fenders, and anti-slip walking surfaces.

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Machine to also include a work light package consisting of 2 spotlights on boom cradle, 3 floodlights on cab, 1 floodlight on right front shrouding.

Bucket to be included shall be a 60" ditching with bolt on cutting edge and a 30" excavating bucket. A fixed thumb grapple attachment to also be included.

Warranty – Bidder to state.