

Bobcat

324

COMPACT EXCAVATOR

Effective January 4, 2010

These bid specifications are to be used as guidelines when assisting purchasing agents and governmental specification writers in writing specs for excavators.

It is not the intent of these specifications to cover all details of design or construction. The unit shall be fully equipped to perform the work intended and shall be a new, current production model.

For individual assistance in preparing detailed specifications, contact the Sales Support and Marketing Communications Department in the West Fargo, ND office at 701-241-8700.

For the most up-to-date Bid Specs go to BobcatNET >>Excavators>>324>>Bid Specs

COMPACT EXCAVATOR BID SPECIFICATIONS (1-2 TON)

OPERATING WEIGHTS & GROUND PRESSURE

| | |
|--|---------------------|
| Operating Weight (Includes Standard Equipment and 24 in. Bucket) | |
| - With Canopy | 3428 lbs. (1555 kg) |
| - With Cab, with Heater | 3712 lbs. (1684 kg) |
| Ground Pressure – 9" (230 mm) Rubber Tracks | 4.2 psi (28.6 kPa) |

WORKING RANGE & ARM FORCES

| | |
|--|---------------------|
| Maximum Blade Height..... | 12.1 in. (308 mm) |
| Maximum Blade Depth | 14.5 in. (368 mm) |
| Maximum Height of Working Equipment with Arm Retracted | 101.0 in. (2564 mm) |
| Maximum Working Equipment Radius with Boom at Maximum Height | 62.5 in. (1586 mm) |
| Maximum Reach at Ground Level | 168.4 in. (4276 mm) |
| Maximum Radius of Working Equipment..... | 170.0 in. (4319 mm) |
| Maximum Bucket Tooth Height..... | 147.4 in. (3743 mm) |
| Maximum Dump Height | 104.6 in. (2656 mm) |
| Maximum Depth of Vertical Wall which can be excavated..... | 90.9 in. (2310 mm) |
| Maximum Dig Depth | 102.4 in. (2602 mm) |
| Swing Clearance, Rear of Upper-structure | 42.1 in. (1068 mm) |
| Tail Swing Overhang (undercarriage expanded) | 15.1 in. (384 mm) |
| Minimum Bucket Pivot Angle | 196° |
| Slew Speed | 8.4 RPM |
| Boom Swing (Left / Right)..... | 80° / 60° |
| Arm Digging Force..... | 1778 lbf. (7909 N) |
| Bucket Digging Force | 3620 lbf. (16102 N) |

DIMENSIONS

| | |
|--|-------------------------------------|
| Clearance, Upper-structure to Groundline | 17.1 in. (435 mm) |
| Groundline to Top of Engine Cover | 51.8 in. (1314 mm) |
| Overall Length in Travel Position | 153.7 in. (3904 mm) |
| Minimum Radius in Travel Position..... | 112.5 in. (2856 mm) |
| Blade Height..... | 8.3 in. (210 mm) |
| Length of Track on Ground..... | 43.9 in. (1114 mm) |
| Overall Length of Track Assembly | 57.9 in. (1472 mm) |
| Machine Centerline to Blade..... | 49.5 in. (1257 mm) |
| Canopy/Cab Height | 85.5 in. (2171 mm) |
| Blade Width | 38.6 in. – 53.7 in. (980 - 1363 mm) |
| Track Width (rubber)..... | 9.1 in. (230 mm) |
| Minimum Turning Radius..... | 46.9 in. (1192 mm) |
| Rear Swing Clearance..... | 42.1 in. (1068 mm) |

HYDRAULIC SYSTEM

| | |
|----------------------------------|--|
| Number of Pumps..... | Three |
| Pump Type | Variable Displacement Piston with Gear |
| Pump Capacity (total flow) | 10.8 GPM (41 L/min) |
| System Relief Pressure | 3350 PSI (230 bar) |
| Auxiliary Relief | 3248 PSI (224 bar) |
| Auxiliary Flow | 7.9 GPM (30 L/min) |
| Control Valve | (1) 9 Spool, Open Center Valve |
| Drive Motors | (2) Axial Piston Motors |
| Slew Motor..... | Orbital Motor |
| Oil Cooler..... | Standard Equipment |

Hydraulic Function Times

| | | | | |
|--------------------------------|---------|-------------|---------|-------------|
| Bucket..... | Curl | 1.2 Seconds | Dump | 2.0 Seconds |
| Arm | Retract | 2.4 Seconds | Extend | 2.0 Seconds |
| Boom (cushion up)..... | Raise | 4.4 Seconds | Lower | 3.8 Seconds |
| Boom Swing | | | | |
| (cushion left and right) | Left | 2.7 Seconds | Right | 3.1 Seconds |
| Blade | Raise | 2.6 Seconds | Lower | 2.6 Seconds |
| Undercarriage..... | Expand | 4.1 Seconds | Retract | 3.5 Seconds |

DRIVE SYSTEM

| | |
|--|--|
| Final Drive | Each track is independently driven by a hydrostatic axial piston motor |
| Type of Reduction..... | Two stage planetary gear reduction 30.3 : 1 |
| Maximum Drawbar Pull..... | 4404 lbf. (19590 N) |
| Maximum Gradability Traveling Down or Backing Up Slopes..... | 30° |
| Travel Speed | |
| - Low | 1.5 mph (2.5 km/hr) |
| - High | 2.5 mph (4.0 km/hr) |

ENGINE/ELECTRICAL

| | |
|----------------------------------|---|
| Make/Model | Kubota/D722-E3B-BCZ-5 |
| Fuel/Cooling | Diesel/Liquid |
| Horsepower (SAE Gross) | 13.9 hp (10.4 kW) |
| Horsepower (SAE Net) | 13.3 hp (9.9 kW) |
| Rated Engine Speed..... | 2500 RPM |
| Torque @ 2000 RPM (SAE Net)..... | 31.1 ft.-lbs. (42.2 Nm) |
| Number of Cylinders | 3 |
| Displacement..... | 43.9 in. ³ (.72 L) |
| Lubrication | Forced |
| Filter..... | Cartridge Type – Full Flow |
| Air Cleaner..... | Dry Replaceable Paper Cartridge w/ Safety Element |
| Alternator | 12 volt, 40 amps |
| Battery | 12 volt, 530 cold cranking amps @ 0°F (-18°C) |
| Starter..... | 12 volt, Gear Reduction Type; 1.9 HP (1.4 kW) |

CONTROLS

| | |
|------------------------------------|--|
| Vehicle Steering..... | Two hand levers or foot pedals control speed and direction |
| High/Low (travel speed)..... | Controlled by push button on blade lever |
| Excavating Functions..... | Two hydraulic joysticks control boom, arm, bucket & house slew Boom swing controlled by foot pedal The blade is controlled by a separate lever |
| Engine Speed Control..... | Controlled by hand lever |
| Auxiliary Hydraulics Function..... | Controlled by foot pedal |
| Service Brake (Travel)..... | Hydraulic lock on motor |
| Parking Brake (Travel)..... | Hydraulic lock on motor |
| Service Brake (Slew)..... | Hydraulic lock on motor |
| Holding Brake (Slew)..... | Mechanical pin |

CAPACITIES

| | |
|--------------------------------|-------------------|
| Fuel Tank..... | 6.3 gal. (23.7 L) |
| Cooling System (radiator)..... | 6.0 qt. (5.7 L) |
| Engine Oil & Filter..... | 3.75 qt. (3.5 L) |
| Hydraulic Reservoir..... | 10.4 qt. (11.2 L) |

UNDERCARRIAGE

| | |
|---|--|
| Undercarriage..... | Crawler-Type Tractor Design |
| Track Rollers..... | Sealed, with Reinforced Box-Section Track Roller Frame |
| Track Adjusters..... | Grease-Type with Shock Absorbing Recoil Springs |
| Track Type / Width..... | Rubber / 9.1" (230 mm) |
| No. of Track Rollers..... | 3 each side |
| Ground Pressure with rubber tracks..... | 4.2 psi (28.6 kPa) |

INSTRUMENTATION

Machine shall be equipped with following instrumentation:

- Console Down Indicator
- Engine Oil Pressure Light with audible alarm
- Engine Temp Gauge Light & audible alarm
- Fuel Gauge
- Hour meter
- Two Speed (High Range) Indicator

STANDARD FEATURES SHALL INCLUDE:

- Auxiliary Hydraulics with Boom Mounted Flush Face Quick Couplers
- Canopy – 4 Post (ROPS & TOPS approved)
- Control Console Locks
- Control Pattern Selector Valve (ISO/STD)
- Cup Holder
- Cylinder-Over-Boom Work Group
- Dozer Blade with Extensions
- Horn
- Hydraulic Joystick Controls
- Hydraulically Retractable Undercarriage
- Retractable Seat Belt
- Rubber Track
- Spark Arrestor Muffler
- TOPS/ROPS Canopy
- Two-Speed Travel
- Warranty: 12 Months, Unlimited Hours
- Work Lights

AVAILABLE OPTIONS/ACCESSORIES:

- Enclosed cab with heater shall be available as optional equipment.
- Lifting Chain kit shall be available.
- Top guard and front guard (screen) in accordance with ISO 10262 Falling Object Guard Structure (FOGS) Level I for top guard shall be available.
- Travel motion alarm shall be available as optional equipment.

ATTACHMENTS

Attachments Available:

- Auger
- Buckets: Grading and Trenching
- Hydraulic Breaker
- Hydraulic Clamp

SAFETY

- A four-post canopy or optional enclosed cab provided.
- Four post canopy and cab shall meet Rollover Protective Structure (ROPS) in accordance with SAE J1040 & ISO 3471 and Tip Over Protective Structure (TOPS) in accordance with ISO 12117.
- Retractable seat belt shall be provided as standard equipment.
- Additional operator protection shall be provided by deactivating ALL excavator joystick functions when the operator console is in the upright position.
- A manually activated house lock pin, within reach of the operator, shall be provided to lock the upper structure to the undercarriage for transporting purposes.
- Grab handles to assist the operator in entering and exiting the excavator will be provided as standard equipment.
- Front working lights for indoor use and low light operation will be standard.
- A weather resistant operator handbook written in English will be attached to inside of cab, providing operational instructions and warning by decals with pictorials and international symbols plus some messages in four basic languages: English, French, German and Spanish.

SERVICEABILITY

- Access to the following items shall be gained by opening the rear tailgate:
 - Air cleaner with indicator
 - Cooling System (engine oil and hydraulic oil coolers) for cleaning
 - Engine oil and fuel filters
 - Engine oil level
 - Starter
 - Sight gauges for hydraulic level
- Fuel fill shall be located inside rear tailgate.
- Easy access to all grease points.
- Central grease point for slew bearing, slew pinion, and offset cylinder.
- Boom cylinder shall be mounted above boom.

TRAINING RESOURCES

- A comprehensive Excavator Service Safety Training Kit shall be available.
- A comprehensive Excavator Operator Training Kit shall be available.