

Rotary Drill – Tractor Mounted

Auger ("Drill"), rotary type boring and subsurface exploration drilling machine, tractor mounted, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following minimum specifications. The specifications are for the Drill and the installation onto a John Deere Model 5100 M tractor only. The tractor, its accessories, and shipping charges are purchased separately off a current state contract.

The purpose of this Drill is for soil sampling and subsurface exploration work. The Drill shall be capable of performing auger borings in unconsolidated formations with conventional flight augers; productively using currently popular geo-exploration methods and techniques; and using rotary drilling applications.

Proposed Drill: Make: _____ Model: _____

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

The vendor must respond to each of the following statements. Specifications listed are **minimum** requirements that must be met for a bidder to qualify for an award. A "YES" response means the bidder guarantees that they meet or exceed the requirement. A "NO" response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to comply, the Drill will be rejected.

Descriptive literature shall be furnished to substantiate the details specified throughout this bid.

SPECIFICATIONS

Rotary Drive: Hydraulic drive through multi-speed transmission, 5-speed minimum, driving a right-angle gearbox using tapered roller bearings in an oil bath. The spindle shall have a bore of 2 3/4 inches and terminate in a circular multi-bolt flange that will bolt up to a 1 5/8-inch hex safety drive coupling. The rotary head system pressure is set at 2500 PSI. The rotary drive system is fixed to the feed frame and does not move off the hole.

Comply Yes/No: _____

Vertical Drive: Hydraulic cylinder-mounted rotary drive providing dual directional movement up and down. This hydraulic vertical drive shall have a minimum pullback force of 17,500 pounds at 70 feet per minute and a minimum ram force of 13,000 pounds at 90 feet per minute. The drive frame shall have a permanent vertical position with a minimum of 65 inches of feed travel and shall have the ability to move from side to side.

Pull Back Force (feet per minute): _____ Ram Force (feet per minute): _____

Comply Yes/No: _____

Power Unit: The Drill will be powered through the tractor's rear-mounted power take-off putting out 85 PTO HP at 2500 RPM.

PTO Output (HP): _____

Comply Yes/No: _____

Hydraulic System: Hydraulic components shall be powered by a heavy-duty tandem gear pump. The primary shall drive the rotary head and the secondary pump shall drive vertical feed, water pump, and other auxiliary functions. Return oil shall pass through oil cooler and a replaceable element filter before returning to a cool flow hydraulic oil tank. Hydraulic pump shall be mounted to a John Deere 5100M rear-facing PTO shaft.

Comply Yes/No: _____

Driller's Control Panel: All control gauges shall be easily accessible while having a clear view of the operation. The control panel shall be mounted on the left rear of the drill and arranged in a logical manner with easy-to-read control labels. The control panel shall include all necessary gauges, controls, power sources, and a manual reset button that should be used after the safety system has been engaged. The instrumentation and controls shall include manual control valves with adjustable spring-type relief for both primary and auxiliary drilling functions. Auxiliary non-drilling functions may be electric over hydraulic, but all drilling functions shall be controlled hydraulically. A metal locking cover plate shall be included on the control panel for safety and security purposes when drill is not in use.

Comply Yes/No: _____

Emergency Shut-Down System: When activated, the emergency shut-down system shall automatically stop the spinning drill spindle by a means of starving the rotating spindle drive of hydraulic fluid, while at the same time cutting power to the drill. An emergency shutdown button shall be included at the drillers control panel, on the right-rear of the machine at the helper's station and, on the front of the drill carrier.

Comply Yes/No: _____

Sliding Bases: Sliding bases shall be furnished for moving the drill sideways so that the spindle can be positioned to facilitate alignment of augers and drill rods and to provide clearance from the hole for handling augers, casing and other down-hole tools. The sideways slide base shall have at least 18 inches of travel and shall be hydraulically operated. The sliding bases shall have a replaceable wear plate between the metal slide surfaces.

Comply Yes/No: _____

Rotation Guard: A cage-type guard shall surround the drill string at the bottom of the rotary head. The cage shall swing open to the driller's side for easy access of tool handling. A safety mechanism shall be included so that the Drill's rotational circuit is inoperable when the guard is open.

Comply Yes/No: _____

Color: Manufacturer's standard black paint

Comply Yes/No: _____

Tooling: The drill shall be supplied with the following tools and accessory items:

- Twelve (12) 4-1/2-inch-diameter x 5-foot-long HEX-COR® auger bits
- Twelve (12) 1-5/8-inch field replaceable hex shank and U-Pin
- One (1) U-Pin for solid stem augers with 1-5/8-inch hex shank
- One (1) 4-1/2-inch x 5T style head with 4-bits and 1-5/8-inch hex shank
- One (1) 5T style replacement bits with carbide inserts, long shank type and retaining nail

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

Service: The Drill shall be delivered fully assembled and ready to operate. Factory-trained dealer representative is to inspect the Drill upon delivery and provide receiving MDOT equipment manager with information on operational, service, and maintenance requirements.

Factory-trained dealer representative shall provide training up to 8 hours as needed for up to 5 employees. Training shall be scheduled ahead of delivery between equipment manager and factory-trained dealer representative for training to commence immediately following completion of delivery/set-up.

Bidder shall maintain a representative inventory of replacement parts and service facilities as well as all necessary diagnostic tools/equipment/software and software licenses needed for diagnosis, repair, service, and maintenance.

Acknowledge Yes/No: _____

Warranty: Clearly stated terms and conditions of all manufacturer warranties shall be included with the bid package. All materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of all cost to MDOT, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time not to exceed thirty (30) calendar days. **The bidder shall provide written assurance with the bid package regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (**all components**) for the first ninety (90) calendar days after acceptance of equipment.

The manufacturer shall provide, with the bid package, a list of warranty service locations within the State of Mississippi for all components of the Drill (body, chassis, electrical, etc.) which may need warranty repair beyond the first ninety (90) calendar days.

Acknowledge Yes/No: _____

Workmanship: Workmanship throughout shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design which the manufacturer proposes must be of substantial and durable construction in all respects.

All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

Acknowledge Yes/No: _____

Parts Availability: Dealer name and contact information located closest to the point of delivery:

Dealer Name: _____

Telephone: _____

Street Address: _____

City, State, ZIP: _____

Acknowledge Yes/No: _____

Tests and Testing: The complete Drill and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer.

Prior to acceptance by MDOT, the manufacturer shall service and adjust the Drill for operation.

Acknowledge Yes/No: _____

Literature:

Technical manuals: Operator's manual, service/maintenance manual, and parts book are to be made available in both hard copy and electronic (PDF file format on USB flash drive) versions. One set of technical manuals shall be provided with each Drill upon delivery. Additional manuals may be ordered later.

Technical service bulletins: Successful bidder shall provide TSBs (technical service bulletins) for all Drill(s) delivered to MDOT as they are published, regardless of the date of delivery. TSBs may be furnished in paper or electronic format and shall be updated regularly.

The following additional information shall be provided by the vendor at time of delivery (electronically if possible):

- Manufacturer's recommended service/preventive maintenance intervals
- Recommended fluids, lubricants, and their SAE equivalents

Two (2) copies of descriptive literature shall be furnished to substantiate the details specified in the bid.

Acknowledge Yes/No: _____

Certification: The manufacturer(s) shall furnish certification that the Drill meets or surpasses current U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Regulations, U.S. Department of Transportation Federal Motor Vehicle Safety Standards (FMVSS), and any other applicable Federal regulations.

Acknowledge Yes/No: _____

Certificate of Origin (if applicable):

Assignment: State of Mississippi/DFA – 941

Mailing address: Mississippi Department of Transportation, 9301
P.O. Box 1850
Jackson, MS 39215

Acknowledge Yes/No: _____

Lienholder: Upon award, if MDOT issues a **Notice to Proceed** instead of a **Purchase Order**, the Drill is being purchased through the State's Master Lease Purchase Program and the specified financial institution must be listed as Lienholder.

Acknowledge Yes/No: _____