

Hydraulic Derrick, Tandem Truck Mounted, 47-Foot Working Height, 50,000 GVWR

Hydraulic derrick, 47-foot working height, tandem truck mounted (hereinafter referred to as "Derrick"), equipped with service body, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

Proposed Truck:

Make: _____ Model: _____

Proposed Derrick:

Make: _____ Model: _____

Proposed Service Body

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 bidder 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 Derrick(s) will be rejected.

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

SPECIFICATIONS

Truck Specifications:

GVWR: 50,000 pounds.

GVWR (pounds): _____

Comply Yes/No: _____

Cab to Tandem: 102 inches.

Cab to Tandem (inches): _____

Comply Yes/No: _____

Wheelbase: 154 inches.

Wheelbase (inches): _____

Comply Yes/No: _____

Engine: 13-liter, 470-horsepower, water-cooled diesel, 1,650 foot-pounds torque, to meet current federal and EPA emission requirements.

Make: _____ Model: _____

Horsepower: _____ Torque (foot-pounds): _____

Comply Yes/No: _____

Engine Protection: Derrick shall have an automatic shutdown system to include oil pressure, oil temperature, coolant temperature, and intake manifold temperature.

Comply Yes/No: _____

Transmission: Heavy Duty, Fully Automatic, 6-speed minimum or Automated-Manual, 13-speed minimum, geared for highway speeds up to 70 MPH with fully loaded truck.

Comply Yes/No: _____

Brakes: Full air, disc, ABS with 6S/6M configuration for front and rear axle compatibility, sized to meet all applicable state and federal safety standards for size, weight and application of truck.

Comply Yes/No: _____

Axle Rating and Suspension:

Front – 16,000-pound minimum capacity, multi-leaf springs w/shock absorbers, disc brake compatible hubs.

Front Axle Rating (pounds): _____

Rear – 34,000-pound minimum capacity, multi-leaf springs, differential lock and full locking wheel differential (anti-spin device), disc brake compatible hubs.

Rear Axle Rating (pounds): _____

Gear Ratio: _____

Comply Yes/No: _____

Cooling System: Heavy-duty, high-capacity radiator, silicone hoses.

Comply Yes/No: _____

Electrical: One (1) 12-volt, 160-amp alternator. Two (2) 12-volt maintenance free batteries, 625 CCA, combined total 1,250 CCA.

Alternator: Amp rating: _____

Battery: Power (CCA per battery/total CCA): _____

Comply Yes/No: _____

Frame: All grade 8 bolts and hardware for assembly. Huck bolts will not be acceptable. High strength, low alloy steel section modulus – 15.9", minimum 110,000 psi.

Comply Yes/No: _____

Fuel System: 100-gallon tank capacity, any configuration, dual-stage fuel filters.

Number of tanks: _____ Capacity per tank (gallons): _____

Comply Yes/No: _____

DEF Tank: 10-gallon, frame mounted.

DEF Tank Capacity (gallons): _____

Comply Yes/No: _____

Steering: Power-integral.

Comply Yes/No: _____

Driveline: Heavy-duty main u-joint with inter-axle.

Comply Yes/No: _____

Tires: All tires must be rated equal to or higher than axle and suspension weight specifications. Steel radial, highway tread, high mileage steer axle type front; all seasons, on-road/off-road, high mileage rear drive axle type duals and spare.

Comply Yes/No: _____

Wheels: Must be rated equal to or higher than axle and suspension weight specifications, disc brake compatible.

Front: (2) 22.5 x 9, 10 hole disc, steel, hub-piloted

Rear: (8) 22.5 x 8.25, 10 hole disc, steel, hub-piloted

Comply Yes/No: _____

Back-up Alarm: Smart, self-adjusting alarm system which is activated upon engagement of the reverse gear of the vehicle, is audible above normal outdoor sounds, and meets FMVSS requirements. The backup warning alarm shall be mounted on the rearmost part of the vehicle, be protected from water and road spray, and meet a minimum of 82 dB up to 107 dB depending on surrounding ambient noise levels.

Comply Yes/No: _____

Cab: Conventional-type, steel or aluminum construction with fiberglass front hood and fender assembly, tilting hood and fender assembly, equipped with door pads and back of cab pads for sound deadening and insulation.

Comply Yes/No: _____

Equipment: All standard equipment including, but not limited to:

- five (5) cab-mounted marker lights.
- deluxe high-back air suspended driver seat and passenger seat.
- factory air conditioning and heater with defroster.
- outside assist handles both sides (if exhaust is in the way, then an inside assist handle will be acceptable for the side affected).
- 12-volt accessory power outlet – dash mounted.
- all dash switches including spares shall be functional.
- direct reading gauges for oil pressure, water temperature and air pressure.
- warning lights and buzzers for air pressure, oil pressure and water temperature, tachometer.
- AM/FM Bluetooth stereo radio with hands-free option.
- dual air horns.
- RH and LH west coast mirrors.
- convex auxiliary mirrors (LH & RH).
- windshield wipers and washers with intermittent mode.

- tilt steering.
- axle air bladder dump valve.
- front tow hooks.
- heavy-duty front bumper.
- circuit breaker for clearance and identification lights.
- 7-wire electrical cable.
- safety belts.

Comply Yes/No: _____

Paint: Manufacturer's Standard White.

Comply Yes/No: _____

Derrick Specifications:

Basic Derrick: Three (3) stage hydraulically operated derrick, center, rear-mounted.

Performances Ranges - Minimum Capacities:			2nd or 3rd stage
Degree	Boom Retracted	Boom Extended	Boom Fully Extended
80°	17,500 lb	11,000 lb	8,500 lb
45°	6,150 lb	4,400 lb	3,100 lb
0°	3,300 lb	2,300 lb	1,250 lb
-20°	2,200 lb	1,200 lb	550 lb

Comply Yes/No: _____

Elevation: From 80 degrees above horizontal to 20 degrees below horizontal minimum range.

Comply Yes/No: _____

Sheave Height: Minimum 46 feet at 80 degrees with full extension, when mounted on 40-inch chassis.

Comply Yes/No: _____

Load Radius: Minimum 35 feet from centerline of rotation at 0 degrees with second and third stage extended.

Comply Yes/No: _____

3:1 Structural Safety Factor: Designed and tested so that the yield point of the structural components is not exceeded when the derrick is loaded to three times its rated capacity.

Comply Yes/No: _____

Boom Tip Winch: 15,000 pound bare drum capacity; self-locking, high torque, worm gear winch, equipped with oil cooled brake with special provisions on drum for attaching wire rope, polypropylene rope, or polyester rope.

Comply Yes/No: _____

Lift Cylinders: The main boom shall be equipped with single or dual lift cylinders capable of lifting the full rated capacities shown above in "Performances Ranges - Minimum Capacities" Chart.

Comply Yes/No: _____

Rotation: 360 degrees of continuous unrestricted rotation provided by high efficiency worm gear or planetary type drive, equipped with disc brake, driving a hardened shear ball bearing rotation gear, resulting in extra smooth rotation.

Comply Yes/No: _____

Pivot Point Pins: All major load bearing pins are plated. all pivot points are line bored or reamed and pins have keepers.

Comply Yes/No: _____

Bearings: Lift cylinder equipped with self-aligning bearings. The second stage boom shall utilize slide pads.

Comply Yes/No: _____

Full Hydraulic Control System: The operator's control station is to be fully hydraulic with full pressure/full flow for all boom functions and no electrically operated boom controls. There shall be individual control levers for all boom functions.

A riding seat type control console is to be provided on the curb side of the turret.

Comply Yes/No: _____

Overload Protection: Protects Derrick from being overloaded. Cuts off winch up, digger dig, second and third stage extensions, importantly it leaves operational those functions which can get you out of trouble. Once the operator has eliminated the overload condition, the overload protection system automatically allows all functions to be operational.

Comply Yes/No: _____

Auger Stow Protection: Protects against damage to auger and auger mechanism by automatically cutting off auger function when auger is stowed.

Comply Yes/No: _____

Rotation Overload Protection: Protects against damage to structure resulting from excessive side loading through the hydraulic overload protection system built into the rotation system.

Comply Yes/No: _____

Digger Transfer Protection: Protects against damage to transfer mechanism when un-stowing digger and auger.

Comply Yes/No: _____

Holding Valves: Provided on main derrick cylinders including counter-balanced holding valves on hydraulic extension cylinder and outrigger cylinders.

Comply Yes/No: _____

Auger Storage Mechanism: Self-latching auger storage bracket, hydraulic auger release, digger transfer mechanism including automatic auger pick-up device and auger stow protection.

Comply Yes/No: _____

Complete Hydraulic System: Derrick to be equipped with the following:

- A tandem vane high efficiency, 3000 psi rated hydraulic pump providing 43.5 gallons per minute (at 2,000 rpm and 2,500 psi).
- 50-gallon hydraulic oil reservoir which includes a 10-micron replaceable cartridge type return line filter mounted in the reservoir with bypass valve to prevent restricted flow.
- A 100-mesh filter screen in the filler cap and a 40-mesh filter screen in the tank outlet.
- Glycerin filled pressure gauge to monitor circuit pressures.
- Relief valves to protect the Derrick winch circuits.

Comply Yes/No: _____

Stabilizers: Derrick to have front and rear "A" frame type with a minimum of 153 inch spread at full extension. The stabilizers are to be constructed as part of the main frame or have a sub-frame that is securely fastened to the main frame. The outrigger controls are to be installed at the rear of the body.

Comply Yes/No: _____

Two Speed Digger: Equipped with planetary gear drive producing up to 12,000 foot-pounds torque:

The digger is to be equipped with a 2-5/8 inch hex kelly bar, locking dog assembly with kelly bar adapter, and a 7-foot drive wrench.

Digger augers to be provided:

- 24-inch diameter auger, 104 inch long with 60 inch flighting and steel boring head and 2-5/8 inch hex kelly bar
- 18-inch diameter auger, 104 inch long with 60 inch flighting and steel boring head and 2-5/8 inch hex kelly bar
- 12-inch diameter auger, 104 inch long with 60 inch flighting and steel boring head and 2-5/8 inch hex kelly bar

Comply Yes/No: _____

Tilt Pole Plumber for Transferable Pole Buddy: Circular design arms handle poles up to 23-inch diameter boom pole guide with safety check valve and tilting system shall be attached to flared boom tip and folds back out of the way when not in use. Install double holding valve on pole guide tilt and open/close circuits. The pole plumber is installed on the transferable pole buddy flange assembly and transfers from the second to the third stage booms.

Comply Yes/No: _____

Tilt Pole Plumber Interlock for Transferable Pole Plumber: The tilt pole plumber includes an interlock system which protects both pole plumber and fiberglass third stage boom from accidental damage caused by extending the third stage boom with the pole plumber installed on the second stage boom and in the tilted down position.

Comply Yes/No: _____

Second Stage Boom: Two-part line attachment installed on the end.

Comply Yes/No: _____

Third Stage Fiberglass Boom, Hydraulically Extended: Structurally capable of lifting to rated hydraulic capacity of derrick in given position while maintaining the derrick's full three to one structural safety factor; Equipped with flared boom tip; Certified for rated line voltage up to and including 46 KV AC; Extension cylinder equipped with holding valves.

Comply Yes/No: _____

Third Stage Boom Extension Rollers: The boom is to be mounted on tapered slide pads installed at the end of the second section to support the fiberglass boom under load minimizing scratches and abrasions. The sides of the fiberglass boom are supported and guided by non-metallic rollers to prevent tracking.

Comply Yes/No: _____

Boom/Accessories:

- Engine start/stop switch at both control stations.
- Hydraulic oil and lubricants, installed.
- 8-1/2-foot x 1/2-inch wire rope sling with eye in each end.
- 4-foot x 1/2-inch wire rope sling with eye in each end.
- 60-foot x 1-inch braided rope with eye in each end.
- Nylite spool shield and shackle #4 orange.
- Cab control, heavy duty SAE power take-off.
- Two-speed throttle control at the rear of the body.

Comply Yes/No: _____

Service Body Specifications:

Service line body: Suitable for installing on any tandem dual rear wheel chassis with 102-inch CT measurement.

Comply Yes/No: _____

Service Body Material: Fabricated from hot dipped zinc galvanized steel with 100% iron zinc alloy coating, all welded construction.

- 16-gauge outside panels.
- 18-gauge shelving.
- 16-gauge panels.
- 12-gauge safety tread steel floor (four-way pattern).
- Structural channel sub-base.

Comply Yes/No: _____

Service Body Dimensions:

- 138-inch overall body length.
- 93-inch overall body width.
- 46-inch overall body height.
- 18-inch compartment depth.
- 57-inch floor width.

Comply Yes/No: _____

Compartment - Left Side:

- First vertical 24-inch wide - six (6) fixed material hooks.
- Front horizontal 54-inch wide - one (1) plain adjustable shelf.
- Rear horizontal 54-inch wide - one (1) plain adjustable shelf.

Comply Yes/No: _____

Compartment - Right Side:

- First vertical 24-inch wide - access steps to cargo area with two grab handles.
- Front horizontal 54-inch wide - two (2) adjustable shelves with removable dividers on 8-inch centers.
- Rear horizontal 54-inch wide - two (2) adjustable shelves with removable dividers on 8-inch centers.

Comply Yes/No: _____

Service Body Standard Features:

- All doors are full double-paneled, self-sealed with built-in drainage for maximum weather tightness.
- All doors contain flush type single point locks with recessed handles, including keyed locks and two-stage strikers.
- Heavy-gauge, welded steel base construction with safety tread floor.
- All edges either rolled or folded for strength and safety.
- Door header drip rail at top for maximum weather protection through shelf, full length, 16-inch wide, extending through all compartments, left side.
- Neoprene fenders.
- Wheel chock storage compartments built into the fender wheels.
- Paint body one solid color with polyurethane enamel or equal, white.

Comply Yes/No: _____

Service Body Accessories:

- Treadplate installed on top of compartments.
- 36-inch long x 94-inch wide x 6-inch deep combination rear platform extension and tamp.
- Storage compartment with drop down doors built in at each side.
- 132-inch long hotstick compartment, built in top street side of body, drop down opening door from rear including:
 - Two (2) hotstick brackets, installed splash aprons, installed lights and reflectors in accordance with FMVSS #108 lighting package.
- Two grab handles on the street side of rear platform extension.
- Cable suspended stirrup step on street side at rear.
- Rigid type stirrup step installed under the curb side recessed steps at front of body.
- Two rubber dock bumpers installed on the right and left side of frame.
- ICC rear bumper.

Comply Yes/No: _____

Miscellaneous/Accessories:

- 6-inch possum belly with drop down door at the rear and a stop at 120 inches.
- Off-Road, Heavy Duty pintle hook with frame reinforcement and two safety chain rings.
- Storage bracket for anchor auger on top of street side compartments.
- Black undercoating applied to the underside of body.
- Tow hooks, installed at front of chassis.
- Triangle reflector kit.
- 5-pound fire extinguisher with mounting bracket mounted front street side of the body.
- DOT inspection.
- 7-prong trailer plug installed at the rear.

Comply Yes/No: _____

ADDITIONAL REQUIREMENTS

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

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: _____

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: _____

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 vehicle.

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

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 Derrick 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 Derrick 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 Derrick upon delivery. Additional manuals may be ordered later.

Technical service bulletins: Successful bidder shall provide TSBs (technical service bulletins) for each Derrick(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 Derrick 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: _____

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NOTE: The Mississippi Department of Transportation is exempt, by way of contractual purchases, from Regulation Eleven and the protections provided by the Mississippi Motor Vehicle Commission. A written notice, established by public hearing on April 21, 2010, at 10:00 a.m., is on file with the Mississippi Motor Vehicle Commission, 1755 Lelia Drive, Suite 200, Jackson, MS 39216.

As a second stage or "specialty vehicle" manufacturer, you are not required to hold a Mississippi Manufacturer or Dealers' License and if you choose, may sell the finished motor vehicle directly to the Mississippi Department of Transportation.

Acknowledge Yes/No: _____

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Vehicle Title or Certificate of Origin:

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 unit is being purchased through the State's Master Lease Purchase Program and the specified financial institution must be listed as Lienholder.

Acknowledge Yes/No: _____