



## MACHETE™3 for VDOT 18'

It is the purpose of this specification to describe a 22' mid-mounted, hydraulically powered boom mower for cutting grass and brush on roadsides and other areas that are not accessible to conventional mowing equipment. The unit bid shall be the manufacturer's current production model that meets or exceeds the following minimum specifications. Only a standard production machine can be bid on these specifications and a supplier will not be allowed to modify his standard production unit in order to meet these specifications.

### **BASIC FEATURES**

- 18' minimum horizontal reach.
- 18' 7" minimum vertical reach.
- 5' 1" below grade reach.
- Two section articulated boom.
- 60" rotary cutting head (specifications listed separately).

### **BOOM FEATURES & MOUNTING**

- Main Boom: 6" x 6" x ¼" wall structural tubing conforming to ASTM A-500 Gr. B (58,000 psi min tensile).
- Outer Boom: 5" x 5" x ¼" wall structural tubing conforming to ASTM A-500 Gr. B (58,000 psi min tensile).
- The main boom pivot points shall be reinforced with ¾" ASTM A-572 Gr. 50 (65,000 psi min tensile).
- Main pivot pins shall be constructed of 2" ETD 150 alloy steel bar (150,000 psi min tensile/32 Rc min).
- Each pin shall be supported by a pair of 3" hardened steel, greaseable Connex® bushings.
- Standard boom functions shall include horizontal swing, vertical lift, dipper reach, and mower head tilt.
- Boom must swing hydraulically a minimum of 120° utilizing a king post style turning arm.
- The 2 ½" diameter king pin shall be constructed from AISI 1045 chrome steel.
- The king pin shall pivot about a pair of 2 ¾" diameter greaseable Connex® bushings.
- The weight of the boom and turning arm shall be supported by a 5" diameter UHMW polyethylene thrust washer.
- The tilt mechanism shall feature a four-bar linkage to allow for 215° mowing head rotation.
- The tractor mount kit shall feature a subframe spanning from the front bolster to the rear axle.
- Subframe shall consist of 4" x 6" x 3/8" wall tubing with a GR. 50 welded vertical support.
- Torsional loading shall be minimized with a welded structure of Gr.50 material spanning the width of the tractor.
- All structural tubing used in the mount kit shall conform to ASTM A-500 Gr. B (58,000 psi min tensile).
- No frame work is attached to the tractor in the bell housing area.
- The mainframe which supports the king post shall brace under middle of tractor below the operator's line of sight.
- Only a one piece, Gr. 50 welded frame structure shall be excepted.
- A minimum 1,600 lb counterweight shall be fastened to the frame opposite the boom.
- A self-adjusting axle stabilizer system shall provide counter-stability for the articulated boom.
- An additional 1,300 lb wheel weight shall be provided as standard equipment.
- A two-piece boom rest structure shall mount to the rear axle to support the weight of the boom in transport.

### **HYDRAULIC SYSTEM**

- Unit shall feature a self-contained hydraulic circuit for both mowing head and boom control.
- Mowing head circuit shall feature a closed-loop, hydrostatic, variable displacement, piston pump.
- The pump shall be rated at 26 gpm (66 hp) and 4350 psi @ 2,200 rpm and feature a no flow neutral circuit.
- The hydrostatic pump shall also feature a charge pump rated at 12 gpm (1.9 hp) and 260 psi @ 2,200 rpm.
- The charge circuit shall be independently filtered and be used to cool the mower circuit.
- The control circuit shall feature a load sensing variable displacement piston pump.
- The load sensing pump shall be rated at 19 gpm (36 hp) and 3,200 psi @ 2,200 rpm.
- Both piston pumps shall provide internal relief for component protection.
- Entire pump system shall be mounted to the front of the tractor and coupled to the engine crankshaft pulley.
- The hydraulic reservoir shall be front-mounted for improved operator visibility, safety, and operator access.
- Reservoir shall feature a 10-micron, 43 gpm return filter with bypass indicator.

### **HYDRAULIC SYSTEM (continued)**

- Reservoir shall feature visual indication of tank level and temperature to insure a 20 gallon working volume.

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Alamo Industrial Machete™2 22 Boom Effective August 17, 2012

- The hydraulic oil must be of a superior grade with anti-wear additives conforming to ISO AW68 specifications.
- Convenient access points for draining and cleaning the reservoir shall be provided.
- A heavy duty steel bumper shall provide frontal protection for the reservoir.
- The cylinder control circuit shall feature a multi-section, electro-hydraulic, directional valve.
- The valve shall be closed-center and provide section-specific pressure compensation.
- Valve shall allow a minimum of four functions to be operated simultaneously by joystick control.
- A manual override control system shall be available in lieu of the standard joystick.
- The swing, lift and dipper sections must feature individual work port relief valves for breakaway protection.
- The lift, dipper, and head tilt functions shall use counterbalance valves to ensure load-holding performance.
- Valve shall feature a separate 10 micron, 20 gpm in-line pressure filter.
- The valve shall be mounted on the oil reservoir and protected by a hinged fiberglass cover.

### ***OPERATOR PROTECTION & SAFETY***

- The mower cutter head shall have a six-second emergency shut down engaged by the operator inside the cab.
- The boom controls shall feature a master ON/OFF switch for complete power shutdown.
- An ignition lock-out safety switch shall prevent the tractor from being started with the cutter head valve engaged.
- Cab units shall include Shields® Premier 3/8" thick right side replacement polycarbonate windows.
- The replacement windows shall feature Supercoat™ anti-abrasion coating with integrated UV protection.
- Open station tractors shall be supplied with a cage which shields the operator from flying debris.
- The right side of the cage shall feature a combination of opaque 3/8" Lexan® MR10 and 10 ga. ASTM A-36 steel.
- Overhead shielding shall consist of a FOPS rated canopy or a 1 1/2" - #9 raised expanded metal cage extension.

### ***TRACTOR SPECIFICATIONS***

- Tractor shall weigh a minimum of 8,500 lbs. and have a 90" minimum wheelbase.
- The engine shall produce a minimum of 90 net hp.
- Tractor shall feature a minimum 18" ground clearance.

### ***OPTIONAL EQUIPMENT***

- Rotary head with door, 5" diameter cut capacity.
- Heavy duty flail with door, 4" diameter cut capacity.
- Saw head with 4" diameter cutting capacity.
- Rotary ditcher with hydraulic chute, 20" cutting wheel.
- Quick hitch for easy cutting head exchange.

### ***WARRANTY***

There shall be a one year parts and labor warranty. Non-governmental users are subject to modified policy. Only Alamo Industrial (OEM) parts may be used for warranty replacement.

### ***PRODUCT LIABILITY INSURANCE***

*Choose the term that relates directly to your specific bidding situation. Please note that it is the dealer's responsibility to use the correct verbiage for the bid type. **DO NOT USE BOTH.***

#### ***Individual Agency Bids***

Bidders must include a copy of mowing equipment manufacturer's Certificate of Insurance for Product Liability of at least \$5,000,000 for the products subject to its bid. The insurance carrier is to be rated "A, VII" or higher by the A.M Best insurance rating service.

#### ***Multi-Unit DOT Bids***

The successful vendor will provide a copy of mowing equipment manufacturer's Certificate of Insurance of at least \$5,000,000 for Product Liability for the products subject to its bid naming the Agency as an additional insured party. The insurance carrier is to be rated "A, VII" or higher by the A.M. Best insurance rating service.



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