



SAMURAI™ 23

It is the purpose of this specification to describe a 23' 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

- 23' minimum horizontal reach.
- 23' 7" minimum vertical reach.
- 9' 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 4" x 5/16" wall tubing with a 6" x 4" x ½" vertical support.
- Torsional loading shall be minimized with a 4" x 2" x ¼" lateral cross-brace 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).
- Frame work fastened to the tractor bell housing area will not be accepted.
- The mainframe which supports the king post shall brace over the hood just above the operator's line of sight.
- The brace shall be a formed 4" x 4" x 5/16" wall tube conforming to ASTM A-500 Gr. B (58,000 psi min tensile).
- Only a one piece, formed structural brace 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 gear-type pump rated at 30 gpm (52 hp) and 3,000 psi @ 2,200 rpm.
- Boom control circuit shall feature a gear-type pump rated at 12 gpm (21 hp) and 3,000 psi @ 2,200 rpm.
- The dual section pump 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.
- The in-tank return filter shall be 10-micron with a 95-GPM full-flow with restriction gauge.
- The suction line filter shall be 100-mesh.
- The hydraulic system shall feature an oil-to-air cooler with integrated electric fan located beyond the reservoir.

HYDRAULIC SYSTEM (continued)

- Reservoir shall feature visual indication of tank level and temperature to insure a 20 gallon working volume.
- 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 open-center and provide section-specific pressure compensation.
- Valve shall allow a minimum of four functions to be operated simultaneously by joystick control.
- The swing, lift and dipper sections must feature individual work port relief valves for breakaway protection.
- The valve shall be mounted on the oil reservoir and protected by a hinged fiberglass cover.
- All high-pressure hydraulic hoses shall be of four-wire braid construction with a minimum SAE100R12 rating.

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 6,000 lbs. and have an 85" minimum wheelbase.
- The engine shall produce a minimum of 80 net hp.

OPTIONAL EQUIPMENT

- Open center valve with lever controls in lieu of joystick.
- 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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LEGAL DISCLAIMER: Alamo Industrial reserves the right to change these specifications without notice as we improve and/or modify our products.
Alamo Industrial Samurai™ 23 Boom Effective April 15, 2014

6M Series Specifications 6110M | 6120M | 6130M

6110M					6120M	6130M
POWER * estimated						
Rated PTO power (hp SAE) at rated engine speed (2100 rpm)		86 hp (64 kW)		95 hp (71 kW)	102 hp (76 kW)	
Rated Engine power (hp (kW) ISO) at 2100 engine rpm (97/68EC)*		110 hp (81 kW)		120 hp (88 kW)	130 hp (96 kW)	
Max Engine power (hp ISO) at 1900 engine rpm (97/68EC)*		116 hp (85 kW)		127 hp (93 kW)	137 hp (101 kW)	
ENGINE						
Manufacturer		John Deere PowerTech™ PSS (B20 Diesel Compatible)				
Rated Speed		2100 rpm				
Type		Diesel, in-line, 4-cylinder, wet-sleeve cylinder liners with 4 valves-in-head				
Aspiration		Dual Series Turbocharger w/ fixed geometry first stage-variable geometry second stage - air-to-air aftercooling and cooled exhaust gas recirculation				
Filter, engine air		PowerCore C2 Air Filter with Pre-cleaning				
After treatment type		Cooled exhaust gas recirculation (EGR), Diesel Particle Filter (DPF) with Diesel Oxidation Catalyst (DOC) and Selective Catalytic Reduction (SCR) using DEF				
TRANSMISSION						
12F/4J SyncroPlus™ transmission 30K (100S Only)		x		x	x	
16 Speed PowrQuad Transmission 30K (100S Only)		x		x	x	
24 Speed PowrQuad Transmission 40K (100S Only)		x		x	x	
16 Speed PowrQuad PLUS™ transmission 30K (Cab Only)		x		x	x	
24 Speed PowrQuad PLUS Transmission 40K (Cab Only)		x		x	x	
24 Speed AutoQuad PLUS Transmission 40K (Cab Only)		x		x	x	
ELECTRICAL SYSTEM						
Alternator/Battery		14V, 120 amps (14V, 200 amp Optional on cab only) / 2V				
REAR AXLES AND WHEEL EQUIPMENT						
Flanged axle, 2-position fixed steel wheels		Group 4S/46		Option	Group 4S/46	
Flanged axle, 8-position reduce tire stress wheels		Option		Base	Option	
79.45 x 2555 mm (31 in x 100.6 in.) with 2-Position Fixed Cast Wheels		Option		Option	Option	
79.45 x 2555 mm (31 in x 100.6 in.) with 2-Position Travel Steel Wheels		Option		Option	Option	
FRONT AXLES						
2WD – tread range 60.4 to 80.4 in (1534 to 2042 mm)		Option		Option	Option	
MFWD – Fixed rims		Option		Option	Option	
MFWD – Adjustable rims		Base		Base	Base	
HYDRAULIC SYSTEM						
Selective control valves (rear/mid)		Pressure Compensated (PC) / Pressure & Flow Compensated (PFC) System with Load Sensing Function (with PFC) up to 3 rear mechanical or 3 with powerbeyond / 3 mid mount mechanical				
Max. pump, wet psw in (displacement)		35cc (45cc)				
Maximum pressure		2,900 psi (20,000 kPa)				
Rated flow		21 U.S. GPM (80 L/min) at PFC of 30 gpm (114 L/min)				
Available flow at a single SCV		21 U.S. gpm (80 lpm)				
Take out oil capacity without additional tank		6.6/9.8 gal. (25/37 liters)				
3-POINT HITCH (real) - Electrohydraulic Sensing		Category 2/3N				
Lift Capacities - Standard		5,582 lb (2500 kg)		5,582 lb (2500 kg)	6,474 lb (2900 kg)	
Lift Capacities - Optional		7,431 lb (3400 kg)		7,431 lb (3400 kg)	8,456 lb (3860 kg)	
DRAWBAR						
Cal 2 1400 kg (3085 lb.) - 2450 kg (5400 lb.) Maximum Vertical Load dependent on drawbar position - Standard						
independent 1,318 in., 5440/1000 reversible shift						
PTO						
PTO Speed @ Engine RPM		540 rpm @ 1932 engine rpm 1000 rpm @ 1932 engine rpm				
Front Hitch and PTO		NA		NA	NA	
CAPACITIES						
Fuel Tank, Standard		51 gal. (195L)		51 gal. (195L)	51 gal. (195L)	
DEF Tank		3.4 gal. (13L)		3.4 gal. (13L)	3.4 gal. (13L)	
Cooling System		5.8 gal. (22L)		5.8 gal. (22L)	5.8 gal. (22L)	
WHEELBASE						
2WD		101.6 in. (2580 mm)		101.6 in. (2580 mm)	101.6 in. (2580 mm)	
MFWD		101.6 in. (2580 mm)		101.6 in. (2580 mm)	101.6 in. (2580 mm)	
MFWD axle ground clearance with standard MFWD tyres		20.47 in. (520 mm)		20.47 in. (520 mm)	20.47 in. (520 mm)	
AVERAGE STANDARD WEIGHT less front weights						
MFWD/AO Plus/TS/Drawbar/base weight		11,040 lbs (5,007 kg)		11,486 lbs (5,210 kg)	11,519 lbs (5,225 kg)	
Max Ballast Level		19,069 lbs (8650 kg)		Maximum recommended ballast is 163 lbs SAE PTO HP - see OM for specific ballast instructions		
Max Payload Capacity		19,069 lbs (8650 kg)		20,172 lbs (9150 kg)		
* 97/68EC power refers to average (50% MOE) net brake power measured and corrected for ambient conditions according to the EC emissions directive. It is equivalent to internal Deere Standard RES1080, and SAE Standards J1349, J1995. Nominal data is metric. Standard data is converted from metric data. Use metric for all calculations						

JD 6120M TIV-B ROPS 4WD
16F/16R POWER QUAD W/ LH REVERSER 13.6R28/18.11R38 R1

Quantity	Code	Description		
1	4294L	6120M Rops Tractor (95 PTO HP)		
1	0202	Destination- United States		
1	0409	Operators Manual- English		
1	2075	Operator Package- Open Operator Station		
1	1424	Transmission- PowerQuad Plus 16F/16R w/Mech LH Rvrsr (19 mph)		
1	2107	Standard Seat for Rops Tractor- Mechanical Suspension		
1	3232	Hydraulic System- Load sensing Constant Flow System 21.1 GPM (80 L/Min), 35cc		
1	3319	2 SCV Mechanical (2-Detent- 200 Series) with Standard Couplers		
1	3820	Rear Independent 540/1000 RPM PTO		
1	4120	Draft Links w/ Telescopic Ball End- Category 2		
1	4210	Center Link w/ Ball End- Category 2		
1	4410	Sway Control Blocks		
1	5010	Flanged Axle		
1	5090	Adjustable Steel Wheels		
1	5234	Rear Tires- 460/85R38 (18.11R38) 149A8 R1W Radial		
1	5999	Rear Tire Brand Preference- None		
1	6045	Front Axles- MFWD Front Axle		
1	6230	Front Tires- 13.6R28 (340/85R28) 123A8 R1W Radial		
1	7702	Preparation For Shipping		
1	8380	Front Auxillary Drive Preparation- Crankshaft Pulley w/o Driveshaft		
1	8763	Heavy Duty Rear Brakes		
1	8782	Back-Up Alarm		
1	8782	Canopy For ROPS		

REACHING ABOVE & BEYOND

- An economical mower priced to fit any budget.
- Made for municipal mowing beyond guardrails and around roadside barriers.



- Fully integrated front axle stabilizer.
- High frame design with elevated turning arm.
- 18', 23', and 25' reach available.

 **SAMURAI**TM**SAMURAI**TM**Boom Mower**

Performance with Convenience

Standard equipment includes greaseable, hardened steel bushings in reinforced housings for maximum performance and minimal maintenance.

Greater Maneuverability

A four-bar linkage allows the cutting head to be maneuvered up to 215°, making it easier to cut in hard to reach areas such as steep ditch banks and over guardrails.

Made for Municipal Mowing

Heavy duty hydraulic lift cylinders are strategically placed to provide for maximum clearance when the boom is extended to full reach.

Sturdy Mounting

The rail-mounted Samurai™ frame reaches from the front bolster to the rear axle, specifically excluding attachment to the transmission bell housing.

Convenience with Ease

An optional joystick may be used in lieu of standard manual levers to allow the operator proportional control of the boom functions at the touch of a hand.

Easily and Safely Transportable

The Samurai™ can be transported down any standard roadway with ease. The axle-mounted boom rest safely cradles the unit during transport.



This information is intended to be of a general nature only; specifications are subject to change without notice as we continue to improve our products.



Always purchase genuine OEM parts.
1-800-882-5762

**A MEMBER OF THE
ALAMO GROUP**
ALWAYS ON THE CUTTING EDGE™

Additional Specifications

Tractor Requirements: 80 engine hp with an 85" wheelbase
and 6,000 lb. shipping weight

Warranty: One year parts and labor. Nongovernmental users are subject to a modified policy. Only genuine Alamo Industrial® parts may be used for warranty replacement.

ALAMO INDUSTRIAL

BUILT SHARPER®

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