



Generation 3, 154hp Stage V MowerMax Boom Specifications

1.0	INTENT
1.01	The intent of this specification is to provide for the purchase of a self-contained, purpose-built boom mower with a primary focus on stability, visibility maneuverability, and operator safety.
2.0	POWERTRAIN AND ENGINE
2.01	Horsepower of 154HP Cummins Stage V Turbo Diesel Engine
2.02	The engine coolant and hydraulic oil will be cooled by a remote, horizontally mounted, heavy duty side by side radiator/CAC/oil cooler with optional clean out reversing fan
2.03	The fuel tank will be welded aluminum with a capacity of 48 gallons with locking fuel cap
2.04	The radiator will have a custom, 21" diameter fan driven by a heavy-duty gear motor with case drain and pressure relief/anti-cavitation valve with an optional operator controlled reversing valve to cleanout radiator
2.05	Two (2) heavy duty Comer axles with full time 4-wheel drive and 4-wheel steering with 3 steering modes: Four Wheel, Front, and Crab. Rear axle will be self-centering when going from 4 wheel or crab to front wheel steer
2.06	Engine Batteries will be located conveniently in the front of the machine for easy access with a locking door.
2.07	Front axle will have automatic, 45% limited slip differential and rear axle will have 100% operator controlled locking differential
2.08	Unit will have a 2-speed transmission with 0-6 MPH work mode, 0-22 MPH travel mode. Optional 4 speed transmission for more off-road traction is available.
2.09	Drive Axle Pump is to be heavy duty hydrostatic, closed loop piston pump with charge pump filter.
2.10	Braking will be accomplished via hydrostatic braking as well as a secondary foot-controlled service brake. Parking brake will be electric over hydraulic with an integrated seat belt safety switch.
2.11	Standard tires will be 22 ply, 550/45-22.5 floatation tires with Chevron tread or 460/70R24 with Multiuse tread
3.0	BOOM FEATURES & MOWING
3.01	Main boom is to be constructed of welded 9in wide x 7in high using 1/2in A-36 steel plate for all 4 sides
3.02	Main boom will be lifted by a 6 inch bore cylinder with a 2.5 inch diameter rod with 1.5in 4140 pins.
3.03	Outer boom is to be 5.5 in wide X 5 inch high using 3/8in A-36 steel plate.
3.04	Outer Boom will be lifted by a 4.5 inch bore cylinder with a 2.0 inch diameter rod with 1.5in 4140 pins.
3.05	Main pivot pins shall be constructed of 1.5 inch AISI 4140 steel.
3.06	Each pivot pin is to be supported by a pair of 2 inch wide hardened steel, greaseable Connex® bushings.
3.07	Standard boom functions will include horizontal swing, vertical lift, dipper reach, mower head tilt and mower head door open/close.
3.08	Boom length options are: 22ft, 24ft, 26ft and 27ft with 3ft Outer Boom Telescope to 30ft
3.09	All boom functions as well as axle stabilizer system must be controlled by the operator's right hand and the joystick.
3.10	Boom must swing hydraulically a minimum of 175 degrees with a rotary actuator with dual cross port reliefs and an accumulator for system protection.
3.11	Boom mower deck/attachment tilt will be lifted by a 4.0 inch bore cylinder with a 1.50 inch diameter rod with 1.5in 4140 pins. The cylinder will also have an integrated counter-balance holding valve.
3.12	The mower blades will be powered by a closed-loop, hydrostatic piston pump with charge pump filter and a bent axis piston motor with maximum pressures capable of 4900psi. This system should have approximately 87% hydraulic efficiency.
3.13	The standard 60in rotary deck frame will be made of a minimum of 9ga. steel plate and have a 1in thick blade bar with 5/8in dual double-sided sling blades.
3.14	The rotary deck will also have an optional 90 degree swivel option.
3.15	The boom arm travel cradle must come with a 2in ratchet strap to secure boom in the cradle to prevent accidental movement when in travel mode.
3.16	The main boom Helac mount weldment will be made of 3/4 inch and 5/8 inch A-36 steel and attached by a minimum of ten (10) grade 8 flange bolts with lock washers.

3.17	Primary counterweight will be custom, cast iron with a minimum of 3,400 pounds with integrated operator steps for easy access and be attached to the main frame with a minimum of nine (9), 1 inch grade 8 bolts.
3.18	Additional cast iron counterweights (Maximum of 3) are available of a minimum of 1,400 pounds each and be attached to the main frame with a minimum of four (4), 1 inch grade 8 bolts.
4.0	CAB AND OTHER FEATURES
4.01	Custom designed cab will be mounted in front of the engine and hydraulics for optimum operator visibility.
4.02	Cab is fully ISO mounted with Acoustical Insulation on the Outside and Acoustical Floor Mat inside
4.03	Cab will be certified for both ROPS - ISO 3471 and FOPS - ISO3449.
4.04	The right side of the cab, or the boom arm side, will feature a minimum of ½ inch Lexan with no vertical supports to hinder the visibility of the operator while operating the boom.
4.05	The steering wheel and column will have a full column tilt and telescoping features and must include a horn and steering knob.
4.06	The operator's seat will be a Grammer, cloth seat with 12-volt adjustable air ride, two armrests, tilt, lumbar support, an operator presence switch limiting joystick and transmission functions and a seatbelt with switch limiting the disengagement of the parking brake and mower PTO.
4.07	Must include Red Dot Air Conditioning, heat and front windshield wiper with washer as standard equipment.
4.08	Unit must include a minimum of three rear view mirrors: one mounted inside the cab, two additional mirrors mounted on the left and right outside the cab.
4.09	The engine gauge display will be at least a 7in diagonal, color monitor mounted on a double ball RAM mount for easy operator adjustment.
4.10	The A/C condenser must be mounted on the upper front of the cab for minimum clogging from dust and debris.
4.11	Unit must have 1 LED Safety Strobe Bar on top of cab and a 35in LED Directional Light Bar as well as 12 mini-LED strobes mounted on all 4 sides. (Front Main Frame, aft Cab mount and Cab A/C Housing for light bar)
4.12	Unit must be equipment with a backup alarm, Slow Moving Vehicle diamond, head lights with LED daytime running lights, high & low beam, front and rear turn signals, brake and reverse lights.
4.13	Cab must come equipment with an audible and visible alarm for low hydraulic oil to alert operator of a hydraulic oil leak as well as high coolant temperature and low oil pressure.
4.14	Cab must come equipment with an AM/FM stereo with Bluetooth. Optional a backup camera available.
4.15	Unit will come equipped with two locking tools boxes mounted on the side of the machine.
5.0	OPTIONS
5.01	Back up alarm & camera
5.02	Radiator reversing fan
5.03	Quick Disconnect System for boom attachments
5.04	50in mulching head for boom
5.05	60in flail head for boom
5.06	48in saw blade for boom
5.07	69in triple saw blade for boom
5.08	90in quad saw blade for boom
5.09	Front Lift Arms with universal skid steer plate and high flow hydraulics
5.10	84in angle broom for front lift arms
5.11	96in rotary deck for front lift arms