

TRUCKAT MOUNTED BOOM MOWER SPECIFICATIONS

General

It is the purpose of the following specifications to describe a self-propelled truck mounted hydraulically driven boom-type mower, which shall mow forward and right of the right rear tire and extend by means of an two-section boom.

This unit shall be constructed to interchange with the following: 50" Rotary Boom mower (48" saw blade), 60" Rotary Boom Mower, 50" Flail Boom mower, 63" Flail Boom mower or 50" snow blower.
SAE J232, J284, J990, J1065. ANSI/SAE - 201.4, S203.13, S205.2, S279.12, S350, EP363.1, S283, S493, ASTM: A370. Submit Compliance report signed by a Registered Professional Engineer. Truck shall meet 50-state Manufacturer shall furnish parts and operation manuals for the unit(s) bid. Manufacturer shall guarantee equipment against defects in workmanship and materials for a period of one (1) year on the mowing unit. Truck Warranty shall be 3 year or 36,000 on the Truck (Bumper to Bumper) and 5 year or 60,000 on Power Train and 5 five year or For any offer to be considered, all items/features must be of a standard production model, not modified for bid purposes.

Line Number	SPECIFICATIONS REQUIRED	COMPLY YES / NO	EXCEPTIONS, DEVIATIONS, and ANSWERS
B1.0	UNIT SPECIFICATIONS		
B1.1	Total weight - 21550 lbs. (With mowing attachment).		
B1.2	Max GVRW shall be no more than 25999 lbs.		
B1.4	Wheel Base - 152 "		
B1.5	Overall transport width - 101".		
B1.6	Overall transport height - 138".		
B1.7	Overall length - 22'.		
B2.0	TRUCK ENGINE AND DRIVELINE		
B2.1	International MV60700 {Cummins B6.7 250} EPA 2024, 250HP @ 2400 RPM, 660 lb-ft Torque @ 1600 RPM, 2600RPM Governed Speed, 250 Peak HP (Max)		
B2.2	Shall have minimum of 660 lbs. torque @ 1,600 rpm.		
B2.3	Truck shall have engine block heater.		
B2.4	Spin on oil filter and dry type air cleaner.		
B2.5	Shall have alternator, Brush Type, 12 Volt, 160 Amp Capacity, Pad Mount, with Remote Sense.		
B2.6	Shall have (2){Fleetrite} Maintenance-Free, (2) 12-Volt 1900CCA Total, Top Threaded Stud.		
B2.7	Transmission {Allison 2500 RDS} 6th Generation Controls, Wide Ratio, 6-Speed with Double Overdrive, with PTO Provision, Less Retarder, with 33,000-lb GVW and GCW Max.		
B2.8	Axle config 4 x 2.		
B2.9	Rear axle ratio -{Meritor RS-23-240} Two-Speed, 23,000-lb Capacity, R Wheel Ends Gear Ratios: 5.57, 7.60		
B2.10	(2) Front tires -11R22.5 Load Range H ECOPLUS HS3+ (CONTINENTAL), 495 rev/mile, 75 MPH,		
B2.11	(4) Rear tires -11R22.5 Load Range G HDL2 DL ECO PLUS (CONTINENTAL), 491 rev/mile, 75 MPH		
B2.12	Rear Suspension: 31,000-lb Capacity, Vari-Rate Springs, with 4500-lb Capacity Auxiliary Rubber Springs		
B2.13	Power assisted, ABS, dual side controlled brakes.		
B2.14	4-wheel disc brakes with front and rear vented disc.		
B2.15	Parking brake shall be located in Instrument panel.		
B2.16	Shall have single Non-Polished Aluminum, D-Style, 19" Tank Depth, 70 US Gal (265L), Mounted Left Side, Under Cab		
B2.17	Shall have dual station, power steering.		
B2.18	Parking Brake Control located on Instrument Panel, Yellow Knob.		
B2.19	Shall have Def Tank - 7 US Gal (26L) Capacity, Frame Mounted Outside Left Rail, Under Cab		
B3.0	CAB		
B3.1	Shall be conventional cab with front engine, constructed of high-strength military grade aluminum body with high-strength steel frame.		
B3.2	GAUGE CLUSTER DISPLAY: Odometer, Voltmeter, Diagnostic Messages, Gear Indicator, Trip Odometer, Total Engine Hours, Trip Hours, MPG, Distance to Empty/Refill Speedometer, Tachometer, Engine Coolant Temp, Fuel Gauge, DEF Gauge, Oil Pressure Gauge, Primary and Secondary Air Pressure or Auxiliary Air Pressure.		
B3.3	Rear section of cab shall be coated with a material to reduce the possibility of damage from thrown objects.		
B3.4	Mirrors: (2) C-Loop, Power Adjust, Heated, Turn Signals, LED Clearance Lights, Bright Heads and Arms, 7" x 14.5" Flat Glass, Includes 8" x 6" Convex Mirrors, for 102" Load Width		
B3.5	Color to be manufacturers standard white.		
B4.0	AUXILIARY ENGINE		
B4.1	74 HP turbo diesel, 4 cylinders, Tier IV final, emissions rated.		
B4.2	Shall have spin on full flow oil filter and dry type air cleaner.		
B4.3	Engine mounted front and left side of bed.		
B4.4	Cab mounted, center control digital console.		
B4.5	Electronic adjustable throttle.		

TRUCKAT MOUNTED BOOM MOWER SPECIFICATIONS

B4.6	Cab mounted, programable, electronic indicator, hour meter, hydraulic oil temp, trans temp, tachometer, water temp, oil pressure gauges, with high pressure filter.		
B4.7	Warning Low Fuel, Low DEF, Low Oil Pressure, High Engine Coolant Temp, Low Battery Voltage (Visual and Audible), Low Air Pressure, Primary and Secondary		
B5.0	OPERATOR SAFETY FEATURES		
B5.1	Right hand door and boom shut-off switch.		
B5.2	Mower shall have 7 second shut down, switch activated.		
B5.3	Brush guard over cab extending over windshield.		
B5.4	Protective screen shall be attached to the right hand operator door and shall be constructed of 3/8" polycarbonate upper and 110,000 yield steel lower.		
B5.5	Cab controlled air suspension to facilitate stability while in operation and cushion air ride when traveling on highway.		
B6.0	JOYSTICK HYDRAULIC CONTROL SYSTEM		
B6.1	Hydraulic mower control system shall use fused circuits and sealed control panel.		
B6.2	Cutter head mower on/off switch with safety start device and indicator light.		
B6.3	Master on/off switch shall disable joystick and mower drive.		
B6.4	Deck float switch (for use only with flail cutter head).		
B6.5	Travel lock shall use hydraulic pressure to hold boom to bed in transport position with 800 PSI of force.		
B6.6	Lift control valve shall be five spool, electro-hydraulic proportional, port pressure relieved (9), single lever, four-axis, joystick with two proportional thumb rollers.		
B6.7	Manual over-rides for joystick functions shall be built into lift valve.		
B7.0	BOOM LIFT		
B7.1	Shall have, two (2) double acting hydraulic cylinders, one single acting cylinder and nitrogen accumulator. Hydraulically operated horizontal maneuvering cylinder with limited reliefs, swings boom 105°. All cylinders shall be of the welded type, and mounted on top of booms. Cutter head shall rotate 180° around outer boom.		
B7.2	(Outer boom) Cylinder shall have replaceable, spherical bearing on rod end.		
B8.0	BOOM SWIVEL		
B8.1	Boom Swivel will be Hydraulic Actuator with 180 degree pivot and live movable swivels.		
B8.2	All cylinder mountings shall have replaceable, greaseable, hardened steel bushings.		
B9.0	PRIMARY BOOM		
B9.1	Primary boom shall have a minimum of 70,000 PSI 8" x 6" structural tube and reinforcement with 50,000 PSI steel.		
B9.2	Primary boom shall have a one piece reinforced cylinder attaching rib, with the end welds strategically welded around end of rib to boom upper surface. Inner reinforcement shall be a 1/4" x 5" anchor plate, saddle mounted to the top of boom. Anchor plate shall be structurally welded to main tube and have 2, 1" diameter core welds in the top center of plate. Outer reinforcement shall be 1/4" box sectioned, 100,000 PSI steel with 2, 1" x 6" core weldments on each side, and 1, 1 x 1 1/4" oblong core welds. Inner end of Primary boom shall have a 1 1/2" diameter 105,000 PSI yield, hardened, nitride surface pin, with a high-strength, steel backed, porous bronze inner structure, acetal resin overlay bearing installed. (VENDOR REQUIREMENT) Submit a complete description of boom, materials, and boom reinforcements.		
B9.3	Pressure and return lines will be preformed steel tubes, or hoses, with hoses at pivot points and mounted to back of boom. (Specifically excluding hoses and tubing inside or front of booms)		
B9.4	Top mounted double acting lift cylinder shall have a nitrogen accumulator.		
B9.5	Cylinder end attach points shall have replaceable bearings. Primary boom lift cylinder shall not be less than 5" in diameter.		
B10	SECONDARY BOOM		
B10.1	Secondary boom shall have a minimum of 50,000 PSI yield 6" x 4" tube and reinforced at all stress points.		
B10.2	Pressure and return lines are preformed steel tubes and hoses mounted to rear of boom.		
B10.3	Cylinders shall be welded, double acting and mounted to top of boom. Hydraulic cylinder mounted between primary and secondary boom shall have a spherical bearing rod end.		
B10.4	Outer end of secondary boom shall have an integrally designed mounting boss, box sectioned into the boom. (Specifically excluding external boom end reinforcements)		
B11.0	HYDRAULICS		

TRUCKAT MOUNTED BOOM MOWER SPECIFICATIONS

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RT 50D

RT 500			
CUTTING HEAD			
H1.0			
H1.1	Shall be constructed of 110,000 PSI yield Domex® steel 1/8" deck and 1/4" thick side walls and (4) four trapezoidal formed 50,000 PSI Domex steel reinforcements. Top to be continuously welded for strength and eliminate debris from collecting under reinforcements. (VENDOR REQUIREMENT) Vendor shall indicate manufacturers material, PSI, and type of <u>welding</u> .		
H1.2	Shall have full length replaceable abrasion resistant skid shoes.		
H1.3	Rubber safety shield shall be bolted to back side of deck.		
H1.4	Safety shield shall be operated hydraulically from operators position and shall extend below the cutting plane. Safety door shall be constructed of 100,000 PSI Domex Steel and meets all ANSI / SAE tests for rotary mowers. (VENDOR REQUIREMENT) Vendor shall indicate door protection type and maximum hydraulic pressure required to maintain door <u>placement</u> .		
H1.5	Head shall weigh no less than 815 lbs.		
H1.6	Head shall rotate 180° around outer boom and cutter head shall have 50" of actual cut.		
H1.7	Cutter head pivot assembly shall be fully welded and integrated into the cutter head design. (specifically excluding cutter heads that bolt to pivot assembly).		

H2.0	SPINDLE		
H2.1	Spindle shall be (1) one piece forged and heat treated with integral 7 1/4" O.D. drive hub. (specifically excluding multiple piece shafts and direct drive spindle assembly's) (VENDOR REQUIREMENT) Vendor to provide line drawing of spindle indicating overall length, diameter of cutting assembly attachment, and material used, including material yield strength.		
H2.2	Spindle shall be attached to hydraulic motor by a flexible coupler and dust cover. (Specifically excluding direct drive motor/spindle assembly's) (VENDOR REQUIREMENT) Vendor shall describe spindle motor attachment.		
H2.3	Spindle assembly shall have minimum torsional shear capacity of 4,174 ft-lb torque, 231,000 PSI yield rotational strength and distribute load over 169 sq. inch area. (VENDOR REQUIREMENT) Vendor shall provide size of attachment, number, grade, and size of bolts used to attach.		
H2.4	Spindle shall have stationary wire wrap protection. Wire wraps shall be a minimum of 4 3/8" x 4 3/4", 3/8" thick. The wraps will also act as reinforcements for spindle housing. Wraps shall be not less than 1/16" from the drive spindle. The top of spindle housing shall have 2" x 3 1/2", 3/8" thick welded reinforcements. (VENDOR REQUIREMENT) Vendor shall describe wire wraps.		
H2.5	Spindle shall be mounted in sealed, double tapered roller bearing, grease reservoir with a O-ring plug and port to drain old grease. Assembly shall be filled with synthetic grease. (Specifically excluding barrel and spherical bearings) (VENDOR REQUIREMENT) Vendor to indicate manufacture and type of bearing.		
H2.6	Spindle shall rotate 19,000 FPM blade tip speed at rated(2,300) tractor RPM. (VENDOR REQUIREMENT) Vendor shall indicate speed.		

TRUCKAT MOUNTED BOOM MOWER SPECIFICATIONS

H2.7	Spindle drive area shall be enclosed and fully protected from outside debris entering into the drive coupler.		
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