

BID TABULATION - TRACTOR EQUIPPED WITH BOOM MOWER

TRACTOR EQUIPPED WITH BOOM MOWER 7-12-2016	SYDENSTRICKER	WM NOBBE & CO
	PO BOX 27 DUTZOW MO 63342	12615 STATE RTE A STE GENEVIEVE MO 63670
ABOVE SPECIFIED TRACTOR WITH BOOM MOWER \$	\$98,915.00	\$103,824.46
TRADE IN ALLOWANCE FOR UNIT 5008312 \$	\$25,115.00	\$25,000.00
NET COST FOR 2 TRACTORS/MOWERS WITH 1 TRADE IN \$	\$172,715.00	\$182,648.92
REQUIRED DOCUMENTS		
NOTARIZED WORK AFFIDAVIT COMPLETED	Y	Y
E-VERIFICATION DOCUMENTATION (Y/N):	Y	Y
COPY OF INSURANCE PROVIDED	Y	Y
TAX RECEIPTS OR NOTARIZED LETTER STATING NO REAL OR PERSONAL PROPERTY OWNED IN JEFFERSON COUNTY	Y	Y
COOPERATIVE BID FORM (Y/N)	N	Y
COOPERATIVE CONTACT INFO:	Y	Y
COMPANY INFORMATION AND SIGNATURE	Y	Y
BID DEPOSIT REQUIRED	N/A	N/A
COMMENTS:	ADDITIONAL INFORMATION PAGES 15-19.	ADDITIONAL INFORMATION PAGES 15-19. ALSO SEE ATTACHED FOR MORE INFORMATION

original



JEFFERSON COUNTY
DEPARTMENT OF ADMINISTRATIVE SERVICES
729 MAPLE ST / PO BOX 100
HILLSBORO MO 63050
WWW.JEFFCOMO.ORG

Invitation for Bid: TRACTOR EQUIPPED WITH BOOM
MOWER 2016

Date Issued: 6-9-2016

BIDS SHALL BE ACCEPTED UNTIL: TUESDAY, JULY 12, 2016, AT 2:00 P.M. LOCAL TIME.

Specification
Contact:

DAVID MIKUSCH
Department of Fleet Services
636-797-6017
dmikusch@jeffcomo.org

Contract
Contact:

VICKIE PRATT
Department of Administrative Services
636-797-5380

SAMPLE ENVELOPE

Mail (3) Three
Complete Copies
With Vendor And
Bid Information As
Shown In Sample:

VENDOR NAME	
VENDOR ADDRESS	
CONTACT NUMBER	DEPARTMENT OF THE COUNTY CLERK
	JEFFERSON COUNTY MISSOURI
	729 MAPLE ST / PO BOX 100
	HILLSBORO MO 63050-0100
SEALED BID: (BID NAME)	

Contract Term:
UPON APPROVAL OF THE
COUNTY COUNCIL AND
COUNTY EXECUTIVE

The undersigned certifies that he/she has the authority to bind this company in an agreement/contract to supply the commodity or service in accordance with all terms, conditions, and pricing specified. This Bid, if accepted, will constitute an Agreement and Contract with Jefferson County, Missouri, upon approval of the County Council and County Executive. Prices are firm during this agreement term, unless agreed upon in writing by the County. The County has the option to renew this agreement at the same terms and conditions as the original agreement for one additional one-year term with the written consent of the successful Bidder. Price increases for renewals are not authorized unless approved in writing by the County.

Vendor
Information:

<u>SYDENSTRICKER IMPLEMENT CO.</u>		<u>BURT SCHWEISSGUTH</u>	
Company Name		Authorized Agent (Print)	
<u>14400 HWY TT, P.O. BOX 27</u>		<u>Burt Schweissguth</u>	
Address		Signature	
<u>DUTZOW, MO 63342</u>		<u>SALESMAN</u>	
City/State/Zip Code		Title	
<u>636-433-2250</u>		<u>7/9/16</u> <u>43-0947529</u>	
Telephone #		Date	
<u>B.SCHWEISSGUTH @</u>		<u>636-433-5125</u>	
E-mail <u>SYDENSTRICKERS.COM</u>		Fax #	

	SAFETY SPECIFICATIONS	Yes	Comply Yes / No	Explain Deviations
	Unit will meet or exceed the following industry standards: SAE J232, J115, J517, J920, J1150, J1170. ANSI/SAE S441.1, EP363.1, S390.1, S203.13, S217.11, S278.6, S318.14, S483. ASTM A370. A compliance report will be available upon request.	✓		

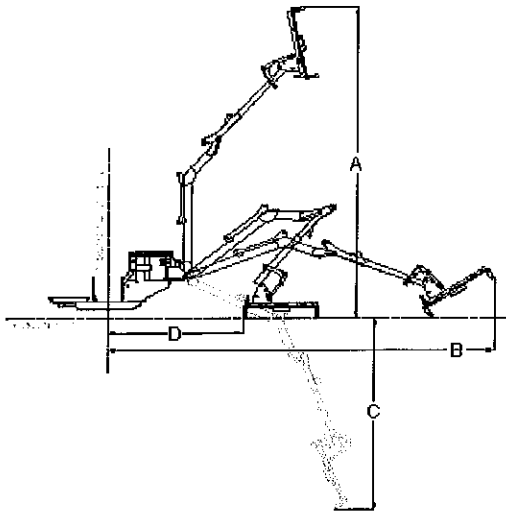
	CUTTING HEAD	Yes	Comply Yes / No	Explain Deviations
	The cutting head will have 435° of combined rotation, 50" of actual cut, and weigh at least 831 lbs.	✓		
	Deck will be 11 gauge, 110,000 psi rated Domex steel housing with 3/8" thick, 80,000 psi minimum rated steel side walls, with full length replaceable skid shoes on inner and outer ends.	✓		
	The cutting head will have a spring loaded, retractable shield for deflecting debris as well as protection from knife blades. (Optional hydraulically operated shield actuated by a 2" x 8" cylinder, controlled from within the cab.)	✓		
	Hydraulic motor will have a minimum rating of 99 hp.	✓		
	Cutting head will be attached to the spindle by (6), 5/8" grade-8 bolts with tapered bolt protector.	✓		
	Cutting assembly will be a 23-1/4" solid 1" thick steel dish with (3) radial cutouts, and (3) case hardened, threaded inserts welded into place	✓		
	Cutting assembly will accommodate (3) 5/8" x 5" x 17-3/16" 360° swinging, single edged brush or grass suction knives. These knives will be attached to the dish with hexagonal blade bolts, castle nuts and roll pins.	✓		

	SPINDLE	Yes	Comply Yes / No	Explain Deviations
	The spindle will be one piece 8630 steel, mounted in straight roller bearings, 6.5" in diameter at its largest area x 13" long, with bearing diameter of 2.755" with a minimum of 4.5" between bearing centers.	✓		
	Spindle will be direct coupled with a splined end, and have a minimum speed of 1,500 rpm.	✓		
	Spindle will be equipped with an easily-serviceable insert, machined from 1117 steel. Insert will have a lower failure point than the motor output shaft or the spindle shaft.	✓		
	Spindle housing will be attached to the cutting head so as to absorb 240,000 lbs. of shear strength, and distribute this load over an area of 169 inches ² .	✓		

	BOOM SPECIFICATIONS	Yes	Comply Yes / No	Explain Deviations
	Mower unit is self-contained and mounts to a tractor's 3 point hitch. Mower requires a tractor equipped with a category II or III hitch, with a minimum PTO horse power rating of 90hp, 21-spline 1-3/8" 1000rpm PTO, and a minimum weight of 11,500lbs (not including wheel weights.)	✓		
	Mower unit will weigh not less than 3,145 lbs.	✓		
	The primary boom structural tube will have a minimum of the following sectional properties: Torsional 74.9" ⁴ Bending (Horizontal) 60.1" ⁴ Bending (Vertical) 23.8" ⁴ . The primary boom will be constructed of 8" x 6" x 1/4" steel tube, and reinforced with a minimum of 3/8", T1 steel.	✓		
	The secondary boom structural tube will have a minimum of the following sectional properties: Torsional 25.0" ⁴ Bending (Horizontal) 22.1" ⁴ Bending (Vertical) 11.7" ⁴ . The secondary boom will be constructed of 6" x 4" x 1/4" steel tube, and reinforced with 3/8", T1 steel.	✓		
	Boom swivel bracket will be triple anchored with 1" thick T-1 steel. All (3) anchors will have hardened spring steel replaceable split bushings. All (3) anchors will each be equipped with a grease zerk.	✓		

BA

	Boom dimensions are measured from ground level and the tractor's centerline. Boom reach, height, and depth may vary depending upon tractor and/or tire configuration.	✓		



	50" Rotary	44" HD Flail	36" FBC
A	19'7"	19'1"	19'1"
B	19'10"	19'4"	19'4"
C	6'5"	5'11"	5'11"
D	3'2"	2'8"	3'2"

	HYDRAULIC SYSTEM	Yes	Comply Yes / No	Explain Deviations
	Hydraulic oil reservoir will have a minimum capacity of 65 gallons, filled to a maximum of 52 gallons, and will have a minimum of one fill sight glass.	✓		
	Hydraulic oil reservoir will have a filter with 10 micron element, 75 gpm rated, and a restriction gauge visible to the operator.	✓		
	Hydraulic oil suction will be an unrestricted 1.5" ID (specifically excluded will be the suction filter and screens.)	✓		
	Hydraulic oil pressure and return system hoses will be 1" ID high pressure unrestricted. Hoses will have a burst pressure 4x working pressure.	✓		
	Hydraulic oil pressure, return, and lift system steel hydraulic lines will be mounted at the rear of the boom arms.	✓		
	Wire braid reinforced hydraulic lines will be used at all flexible positions on the boom arm (hydraulic hoses/tubing will not be allowed inside boom arms.)	✓		
	Hydraulic pump and motor will be gear type with cast steel housing and steel gears (specifically excluded are the aluminum pumps, motors, and aluminum gears.)	✓		
	Hydraulic oil to the power center head will not pass through a restriction causing valve while operating the cutting head.	✓		
	Main hydraulic control valve will be non-restrictive, electric solenoid type, with starter lockout switch (Optional hydraulic brake available.) The hydraulic valve will not cause restriction to generate drift while in the off position.	✓		

	HYDRAULIC CYLINDERS	Yes	Comply Yes / No	Explain Deviations
	All cylinders are heavy duty industrial type, nitro steel rod welded, and all cylinder mountings will have replaceable, hardened bushings, of the grease-able type.	✓		
	Secondary boom cylinder will have a spherical bearing on the rod end.	✓		
	Boom will have (3) double acting hydraulic cylinders, with (1) accumulator on the main cylinder.	✓		

	JOYSTICK	Yes	Comply Yes / No	Explain Deviations
	Electronic joystick with a 4/5 bank electro-hydraulic proportional, and manual override at operators' position. (Load sensing is based on tractor).	✓		
	Joystick controls will be securely mounted so as to not interfere with other operator controls.	✓		

*JD 6100M CAB TRACTOR W/
DIAMOND RBM-C-U REAR MOUNTED
CUTTER W/ DRB050-H CUTTERHEAD.*

*MEETS ALL
SPECIFICATIONS.*

Above Specified Tractor with Boom mower \$ \$90,915⁰⁰ (each)

Trade in allowance for unit 5008312 \$ 75,115⁰⁰

Net Cost for 2 tractors/mowers with 1 trade in \$ \$172,715⁰⁰



JEFFERSON COUNTY
DEPARTMENT OF ADMINISTRATIVE SERVICES
 729 MAPLE ST / PO BOX 100
 HILLSBORO MO 63050
 WWW.JEFFCOMO.ORG

Invitation for Bid: TRACTOR EQUIPPED WITH BOOM MOWER 2016

Date Issued: 6-9-2016

BIDS SHALL BE ACCEPTED UNTIL: TUESDAY, JULY 12, 2016, AT 2:00 P.M. LOCAL TIME.

**Specification
 Contact:**

DAVID MIKUSCH
 Department of Fleet Services
 636-797-6017
 dmikusch@jeffcomo.org

**Contract
 Contact:**

VICKIE PRATT
 Department of Administrative Services
 636-797-5380

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<i>VENDOR ADDRESS</i>	
<i>CONTACT NUMBER</i>	DEPARTMENT OF THE COUNTY CLERK
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	HILLSBORO MO 63050-0100
SEALED BID: (BID NAME)	

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**Vendor
 Information:**

<i>Wm. Nobbe & Co.</i>	<i>James M. Wesbecker</i>
Company Name	Authorized Agent (Print)
<i>12615 State Rt. A</i>	<i>James M. Wesbecker</i>
Address	Signature
<i>STE. GENEVIEVE MO. 63670</i>	<i>SALES</i>
City/State/Zip Code	Title
<i>800-316-5703</i>	<i>7/9/2016</i>
Telephone #	Date
<i>jesbeech@PWN.Nobbe.com</i>	<i>37-0441750</i>
E-mail	Tax ID #
	<i>573-883-5968</i>
	Fax #

JOHN DEERE 6110M**OFFICIAL TEST**

Nebraska Test number ---

ENGINE

Manufacturer John Deere PowerTech™ PSS (B20 Diesel Compatible)

Engine family ---

Aspiration Dual Series Turbocharger w/fixed geometry first stage-variable geometry second stage - air-to-air aftercooling and cooled exhaust gas recirculation

Cylinders/Displacement, cu. in. (L) 4/4.5 L 4/276 cu in.

Cylinder Liners Wet sleeve

Fuel tank capacity, US Gal. (L) (Open; Cab) ---

Standard 205 L 54 U.S. gal.

Optional ---

Underhood muffler Yes

PERFORMANCE

Advertised PTO hp (kW) @ Rated rpm 64 @ 2100 kW 86 @ 2100 hp

Official PTO hp (kW) @ Rated rpm ---

@ Standard PTO @ Eng rpm ---

Maximum @ Eng rpm ---

Advertised Engine hp (kW) @ Rated speed 82 @ 2100 kW 110 @ 2100 hp

Max Unballast Drwbr hp (kW) @ Eng rpm ---

Maximum Torque (PTO) @ rpm, lb-ft (Nm) ---

Max Torque Rise (80% rtd spd) @ Eng rpm ---

Maximum Torque Rise % (PTO) @ Eng rpm ---

FUEL USE, U.S. GAL./HR & HP HR/GAL. AT:

PTO @ Rated Eng rpm ---

Standard PTO Speed @ Eng speed ---

Maximum PTO Power @ Eng rpm ---

Maximum Engine Power @ Eng rpm ---

Max Unballasted Drawbar Power @ Eng rpm ---

75% Load, Full Engine rpm (Unballasted) ---

75% Load @ Reduced rpm (Unballasted) ---

TRANSMISSION

Std. Transmission; Forward/Reverse 16 Speed PowrQuad Transmission 30K (OOS Only); 16 Speed PowrQuad PLUS™ Transmission 30K (Cab Only)

Opt. Transmission; Forward/Reverse 24 Speed PowrQuad Transmission 40K (OOS Only); 24 Speed PowrQuad PLUS Transmission 40K (Cab Only); 24 Speed AutoQuad PLUS Transmission 40K (Cab Only)

Reverser Left-hand base

On-the-Go Shifting (Yes/No/Partial) Yes

Clutch; Wet/Dry Wet

Creeper Yes

POWER TAKE-OFF (PTO)

Standard Independent 1-3/8 in., 540/1000 reversible shaft

Optional Independent 540 rpm

PTO Speeds @ Engine rpm	---
PTO Actuation	Electrohydraulic
HYDRAULICS	
Type	Pressure Compensated (PC) System with Load Sensing Function - Base Pressure & Flow Compensated (PFC) System with Load Sensing Function - Option
Pump Rated Output, GPM (L/min.)	---
Standard	80 Advertised - Base (PC) L/min 21.1 Advertised - Base (PC) gpm
Optional	114 Advertised - Option (PFC) L/min 30 Advertised - Option (PFC) gpm
Rated Flow @ One SCV, GPM (L/min.)	---
Max Output @ SCV Couplers, GPM (L/min.)	---
Maximum Operating Pressure, psi (kPa)	20,000 kPa 2900 psi
Maximum Hydraulic Power, hp (kW)	---
Hitch Draft Control Load Sense Type	Electrohydraulic
Remote Control Valves Available	Up to 3 rear mechanical or 3 with power beyond, 3 mid-mount mechanical
Hitch Category (SAE Designation)	Category 2/3N
Hitch Lift Cap. lb (kg) @24 in. Bhnd Lift Pt.	---
OECD	---
Standard	2532 Advertised kg 5582 Advertised lb
Optional	3371 Advertised kg 7431 Advertised lb
Hitch Lift Cap. lb (kg) @24 in. Bhnd Lift Pt. (SAE)	---
Standard	---
Optional	---

Hitch Lift Cap. lb (kg) @24 in. Bhnd Lift Pt. (ASAE)	---
Standard	---
Optional	---
Sensing type	Electronic lower link
Joystick SCV control	Mechanical
FINAL DRIVE	
Type	Inboard planetary three pinion
Differential controls	Electrohydraulic
Availability	---
Front	Yes
Front & Rear	Yes
Engage On-the-Go Rear Differential Lock	Yes
Axle Type	Flanged axle, 8 position adjustable steel wheels - Base, Options: Flanged axle, 2 position fixed steel wheels 79.45 x 2555 with 2-Position Fixed Cast Wheels mm 3.1 x 100.6 with 2-Position Fixed Cast Wheels in. 79.45 x 2555 with 2-Position Fixed Steel Wheels mm 3.1 x 100.6 with 2-Position Fixed Steel Wheels in.
Brakes, Type and Control	Hydraulic wet disk
OPERATOR STATION	
Rollover Protective Structure, OOS	Yes
Rigid - Foldable - Telescopic	---
Platform - Flat/Straddle	---
Gearshift Location - Console/Floor	Transmission specific
Cab	---

Doors	---
Platform - Flat/Straddle	---
dB(A) Rating	---
Seat Suspension System	---

2WD DIMENSIONS

Wheelbase, in. (mm)	2580 mm 101.6 in.
Front Tread Range, in. (mm)	1534 to 2042 mm 60.4 to 80.4 in.
Rear Tread Range, in. (mm)	---
Minimum Rear Tread Setting, in. (mm)	---
Front Axle Clearance, in. (mm)	---
Turning Radius w/Brakes, ft (m)	---
Turning Radius w/o Brakes, ft (m)	---
Unballasted Operating Weight, lb (kg)	---
Approx. Ship Wgt, lb (kg) Open; Cab	---

MFWD DIMENSIONS

Wheelbase, in. (mm)	2580 mm 101.6 in.
Front Tread Range, in. (mm)	1494 to 2206 mm 58.8 to 86.8 in.
Front Axle Clearance, in. (mm)	607 mm 23.9 in.
Turning Radius w/Brakes, ft (m)	7.1 m 23.5 ft
Turning Radius w/o Brakes, ft (m)	7.1 m 23.5 ft
Limited Slip Differential	Yes
Unballasted Operating Weight, lb (kg)	5007 kg 11,040 lb
Approx. Ship Wgt, lb (kg) Open; Cab	5007 kg 11,040 lb

4WD DIMENSIONS

Wheelbase, in. (mm)	---
Wheel Tread, Min. to Max. in. (mm)	---
Turning Radius w/o Brakes, ft (m)	---
Nebraska Test Unballasted w/Duals, lb (kg)	---
Unballasted Weight, lb (kg)	---

STANDARD TIRES

2WD	10.00-16 10PR F2 Bias - Front in. 460/85R38 149A8 R1W Radial - Rear in.
Front	---
Rear	---
MFWD	
Front	380/85R28 133A8 R1W Radial in.
Rear	460/85R38 149A8 R1W Radial in.
4WD	---
Track widths	---

MISCELLANEOUS

Country of Manufacture	Mannheim, Germany
Ballasting Restrictions, lb (kg)	Refer to Operator's Manual
*Notes	Updated - 02/27/2015

RBM 20 REAR BOOM ROTARY MOWER

General

It is the purpose of the following specifications to describe a self contained hydraulic driven flail boom mower. Mowing is right of the right rear tire and extended by means of an articulated two-section boom. This unit shall be constructed to interchange with a 60" Rotary Head or a 47" Grass/Brush Flail Head. The unit will be the manufacturer's current production model which meets or exceeding the terms of these specifications. Unit's shall be manufacturer's heaviest duty model available. The vendor shall guarantee that a stock of component parts be available at a location convenient to the user. For any offer to be considered, all items must be of a standard production model, not modified for bid purposes. All deviations must be spelled out and explained in full.

	SPECIFICATIONS REQUIRED	COMPLY Yes/No	EXCEPTIONS, DEVIATIONS, ANSWERS
B1.0	PRIMARY BOOM		
B1.1	Pressure and return lines will be mounted to back of boom		
B1.2	Double acting lift cylinder shall have an accumulator cushion		
B1.3	All cylinder ends are greaseable		
B2.0	SECONDARY BOOM		
B2.1	Pressure and return lines are mounted to rear of boom.		
B2.2	Cylinders shall be double acting and have greaseable ends.		
B3.0	REACH		
B3.1	Mowing dimensions shall be: UP - 22.3', DOWN @ 45° - 7.3' and OUT - 18.7'.		
B3.2	Reach shall be measured from tractor centerline and may vary depending on tractor and/or tire size.		
B4.0	SWING SYSTEM		
B4.1	Swing system provides 100° of swing arc.		
B4.2	Swing system allows the cutter head to be stored to the rear of the tractor for transport.		
B5.0	HYDRAULICS		
B5.1	Totally independent (54 HP) hydraulic system powered by the tractors 540 rpm PTO system. Reservoir shall be 50 gallons and equipped with intank filter and element rated at 10 micron.		
B5.2	Suction hose shall be unrestricted 1" inside dia. Pressure and return lines will be unrestricted 3/4" inside dia. With (4) four times working pressure.		
B5.3	Hydraulic pump shall produce 27.0 GPM @ 3000 PSI and lift pump shall produce 4 GPM @ 2500 PSI.		
B5.4	Lift controls shall be cable operated (No hydraulic lines in operators position).		
B5.5	Minimum of 65 PTO HP and 7500 lb. tractor with Category II - 3 point hitch system required.		
B6.0	Break Out Protection		
B6.1	Breakout protection shall be hydraulic actuated.		
B7.0	TRANSPORT POSITION		
B7.1	Rear of tractor in three point hitch mounted base.		
B7.2	Shipping weight with rotary cutter head shall be 2550 lbs approx.		
B8.0	OPERATOR PROTECTION AND VISIBILITY		
B8.1	Mower shall be painted bright hiway yellow.		
B8.2	Travel Safety Lock standard.		

H1.0	CUTTING HEAD - Rotary		
H1.1	Cutter Head shall be constructed of DOMEX 700MC.		
H1.2	Cutter Head side walls shall be 4mm in thickness.		
H1.3	Cutter Head shall have replaceable skid shoes with adjustable cut height.		
H1.4	Cutter Head shall provide 60" of actual cut.		
H1.5	Blade Bar assembly shall have two(2) 5.9x14.5x.63 inch flat double edged blades.		
H1.6	Blade Tip speed shall be 27,360 ft/min at 1800 RPM.		
H1.7	Heavy Duty rubber flaps on front and rear standard.		
H1.8	Cutter Head overall dimensions: Length - 78", Width - 71",		
H1.9	Cutter Head shipping weight is 870 lbs.		

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B4.1	Swing system provides 100° of swing arc.		
B4.2	Swing system allows the cutter head to be stored to the rear of the tractor for transport.		
B5.0	HYDRAULICS		
B5.1	Totally independent (54 HP) hydraulic system powered by the tractors 540 rpm PTO system. Reservoir shall be 50 gallons and equipped with intank filter and element rated at 10 micron.		
B5.2	Suction hose shall be unrestricted 1" inside dia. Pressure and return lines will be unrestricted 3/4" inside dia. With (4) four times working pressure.		
B5.3	Hydraulic pump shall produce 27.0 GPM @ 3000 PSI and lift pump shall produce 4 GPM @ 2500 PSI.		
B5.4	Lift controls shall be cable operated (No hydraulic lines in operators position).		
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B7.1	Rear of tractor in three point hitch mounted base.		
B7.2	Shipping weight with rotary cutter head shall be 2550 lbs approx.		
B8.0	OPERATOR PROTECTION AND VISIBILITY		
B8.1	Mower shall be painted bright hiway yellow.		
B8.2	Travel Safety Lock standard.		

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H1.8	Cutter Head overall dimensions: Length - 78", Width - 71",		
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See Attached Tiger Mower Specifications.

	SAFETY SPECIFICATIONS	Yes	Comply Yes / No	Explain Deviations
	Unit will meet or exceed the following industry standards: SAE J232, J115, J517, J920, J1150, J1170. ANSI/ASAE S441.1, EP363.1, S390.1, S203.13, S217.11, S278.6, S318.14, S483. ASTM A370. A compliance report will be available upon request.			

	CUTTING HEAD	Yes	Comply Yes / No	Explain Deviations
	The cutting head will have 435° of combined rotation, 50" of actual cut, and weigh at least 831 lbs.			60''
	Deck will be 11 gauge, 110,000 psi rated Domex steel housing with 3/8" thick, 80,000 psi minimum rated steel side walls, with full length replaceable skid shoes on inner and outer ends.			
	The cutting head will have a spring loaded, retractable shield for deflecting debris as well as protection from knife blades. (Optional hydraulically operated shield actuated by a 2" x 8" cylinder, controlled from within the cab.)			
	Hydraulic motor will have a minimum rating of 99 hp.			
	Cutting head will be attached to the spindle by (6), 5/8" grade-8 bolts with tapered bolt protector.			
	Cutting assembly will be a 23-1/4" solid 1" thick steel dish with (3) radial cutouts, and (3) case hardened, threaded inserts welded into place			
	Cutting assembly will accommodate (3) 5/8" x 5" x 17-3/16" 360° swinging, single edged brush or grass suction knives. These knives will be attached to the dish with hexagonal blade bolts, castle nuts and roll pins.			

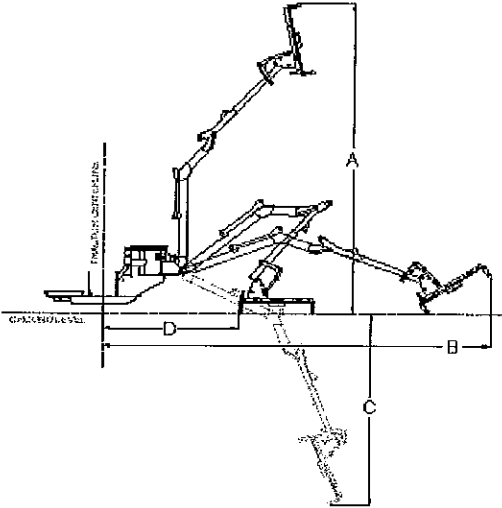
See Attached.

	SPINDLE	Yes	Comply Yes / No	Explain Deviations
	The spindle will be one piece 8630 steel, mounted in straight roller bearings, 6.5" in diameter at its largest area x 13" long, with bearing diameter of 2.755" with a minimum of 4.5" between bearing centers.			
	Spindle will be direct coupled with a splined end, and have a minimum speed of 1,500 rpm.			
	Spindle will be equipped with an easily-serviceable insert, machined from 1117 steel. Insert will have a lower failure point than the motor output shaft or the spindle shaft.			
	Spindle housing will be attached to the cutting head so as to absorb 240,000 lbs. of shear strength, and distribute this load over an area of 169 inches ² .			

	BOOM SPECIFICATIONS	Yes	Comply Yes / No	Explain Deviations
	Mower unit is self-contained and mounts to a tractor's 3 point hitch. Mower requires a tractor equipped with a category II or III hitch, with a minimum PTO horse power rating of 90hp, 21-spline 1-3/8" 1000rpm PTO, and a minimum weight of 11,500lbs (not including wheel weights.)			
	Mower unit will weigh not less than 3,145 lbs.			
	The primary boom structural tube will have a minimum of the following sectional properties: Torsional 74.9 ^{in⁴} Bending (Horizontal) 60.1 ^{in⁴} Bending (Vertical) 23.8 ^{in⁴} . The primary boom will be constructed of 8" x 6" x 1/4" steel tube, and reinforced with a minimum of 3/8", T1 steel.			
	The secondary boom structural tube will have a minimum of the following sectional properties: Torsional 25.0 ^{in⁴} Bending (Horizontal) 22.1 ^{in⁴} Bending (Vertical) 11.7 ^{in⁴} . The secondary boom will be constructed of 6" x 4" x 1/4" steel tube, and reinforced with 3/8", T1 steel.			
	Boom swivel bracket will be triple anchored with 1" thick T-1 steel. All (3) anchors will have hardened spring steel replaceable split bushings. All (3) anchors will each be equipped with a grease zerk.			

See Attached

	<p>Boom dimensions are measured from ground level and the tractor's centerline. Boom reach, height, and depth may vary depending upon tractor and/or tire configuration.</p>			



	50" Rotary	44" HD Flail	36" FBC
A	19'7"	19'1"	19'1"
B	19'10"	19'4"	19'4"
C	6'5"	5'11"	5'11"
D	3'2"	2'8"	3'2"

See Attached.

	HYDRAULIC SYSTEM	Yes	Comply Yes / No	Explain Deviations
	Hydraulic oil reservoir will have a minimum capacity of 65 gallons, filled to a maximum of 52 gallons, and will have a minimum of one fill sight glass.			
	Hydraulic oil reservoir will have a filter with 10 micron element, 75 gpm rated, and a restriction gauge visible to the operator.			
	Hydraulic oil suction will be an unrestricted 1.5" ID (specifically excluded will be the suction filter and screens.)			
	Hydraulic oil pressure and return system hoses will be 1" ID high pressure unrestricted. Hoses will have a burst pressure 4x working pressure.			
	Hydraulic oil pressure, return, and lift system steel hydraulic lines will be mounted at the rear of the boom arms.			
	Wire braid reinforced hydraulic lines will be used at all flexible positions on the boom arm (hydraulic hoses/tubing will not be allowed inside boom arms.)			
	Hydraulic pump and motor will be gear type with cast steel housing and steel gears (specifically excluded are the aluminum pumps, motors, and aluminum gears.)			
	Hydraulic oil to the power center head will not pass through a restriction causing valve while operating the cutting head.			
	Main hydraulic control valve will be non-restrictive, electric solenoid type, with starter lockout switch (Optional hydraulic brake available.) The hydraulic valve will not cause restriction to generate drift while in the off position.			

Seentched specifications.

	HYDRAULIC CYLINDERS	Yes	Comply Yes / No	Explain Deviations
	All cylinders are heavy duty industrial type, nitro steel rod welded, and all cylinder mountings will have replaceable, hardened bushings, of the grease-able type.			
	Secondary boom cylinder will have a spherical bearing on the rod end.			
	Boom will have (3) double acting hydraulic cylinders, with (1) accumulator on the main cylinder.			

	JOYSTICK	Yes	Comply Yes / No	Explain Deviations
	Electronic joystick with a 4/5 bank electro-hydraulic proportional, and manual override at operators' position. (Load sensing is based on tractor).			
	Joystick controls will be securely mounted so as to not interfere with other operator controls.			

Above Specified Tractor with Boom mower \$ 103,924.46 (each)

Trade in allowance for unit 5008312 \$ 25,000.00

Net Cost for 2 tractors/mowers with 1 trade in \$ 182,648.92

*IF CONSTRUCTION YELLOW IS REQUIRED
PLEASE ADD. \$1,500.00 PER TRACTOR.*