



MISSOURI DEPARTMENT OF TRANSPORTATION
TRACTOR MOUNTED 22.5' EXTREME DUTY TRIPLE GANG FLAIL MOWER
SPECIFICATIONS

GENERAL - The intent and purpose of the following specifications to describe a self-propelled, hydraulically powered flail type mowers, which shall mow forward, right and left of rear tires and shall have a rear centered flail mower. The unit shall be of the manufacturer's current production model, meeting or exceeding the terms of these specifications.

For any mower to be considered all items must be of standard production configuration and not a product that is modified for bid purposes.

SAFETY AND TESTING – Shall be tested to meet or exceed all applicable ANSI, SAE, and ASAE test standards.

SIDE MOWERS –

Cutting width is 22' 6" of actual cut

Side-cutting assemblies shall be flail type, hydraulically powered

Cutter shafts shall be dynamically balanced, 6" diameter, 3/8" wall tubing with 2 3/16" diameter stuff shafts and bearings

Each 90" cutter head shall have 96 forged, self-cleaning, reversible all purpose knives, or 48 smooth cut grass knives

Knife interchangeability shall not require change of cutter shaft

Cutting height shall be infinitely adjustable between 1/2" to + 6"

Cutter shafts will have bearing wrap protection

All cutter heads shall have 6 5/8" diameter rollers, 1 3/8" double-row spherical bearings and replaceable 1 3/8" stub shafts with internal seal on greasable bearing and o-ring on 6 bolt heavy duty cap

Cutter head arc shall be 150 degree from vertical position (side unit)

Cutter heads shall have 10 gauge, 80,000 PSI yield steel bonnet, 1/2" drive side and 3/8" carrier steel end plates

Cutter head shall have replaceable skid shoes

Cutter head shall have 20 1/4" of inboard travel

Cutter shaft shall have operating speed of 2,400 RPM at rated tractor RPM

Knife swing circumferences shall be a minimum of 58 1/2"

HYDRAULICS –

Hydraulic motor shall have an rating of 74 H.P.

Motors shall have cast steel housing with steel gears

Hydraulic pump shall be tandem gear type with a rating of 136 input H.P., producing 59.6 GPM at 3,500 PSI

Reservoir shall be internally treated against corrosion with industry approved chemical agent at time of manufacture. Reservoir shall be 26 gallons and equipped with intank filter rated at 75 GPM, 10 micron,

200 beta absolute element with restriction gauge, have positive pressure at suction outlet and ball valve at suction line



Hydraulic cooler fan shall have reverser switch electric brake, be outdoor weather rated with maximum of 25 psi pressure drop and minimum heat transfer of 17,000 BTUH @ 50 degree F ITD, 40 GPM, 720 CFM

Mower drive control valve shall not cause restriction while cutter head in operation. Valve to stop cutting assembly in maximum 3 seconds from full RPM

Hydraulic pressure connections shall meet SAE o-ring and JIC standards

Pressure and return system hoses shall be 1" unrestricted inside diameter. Hoses shall have a burst pressure of 4 times working pressure.

Lift assembly shall have two single acting and two double-acting cylinders controlling inboard and outboard ends of cutter heads.

Lift control shall have four-spool metering type valve, spring-centered, with detented float position and pilot relief valve.

Suction line shall be an unrestricted 1 1/4" inside diameter. (Specifically excluding suction filters and screens.)

Drive belt system shall have automatic belt tightener. (Specifically excluding back bend belt tightener).

Reverse rotation models shall be equipped with steel front deflector

Rear safety discharge deflector shall be provided.

Travel and transport locks shall be required.

102" REAR PTO FLAIL –

Cutting width shall be at least 102" of actual cut.

Cutting assembly shall be flail type, mechanically driven.

Cutting shaft shall have a minimum of 112 all purpose, forged, self cleaning, reversible knives, or 56 smooth cut grass knives

Knife interchangeability shall not require change of cutter shaft.

Cutting shaft shall be a minimum of 6" diameter, with 3/8" wall and 2 3/16" diameter bearings.

Cutter shaft shall have bearing wrap protection

Cutter shafts will be dynamically balanced

Cutter heads cutting height shall be infinitely adjustable between -1/2" to + 6". It shall not be necessary to remove the roller mounting brackets to adjust cutting height.

All ground rollers shall be 6 5/8" diameter, and use 1 3/8" double row spherical bearings and replaceable stub shafts with internal seal on greasable bearing and o-ring on 6 bolt heavy duty cap

Cutting head weight shall be a minimum of 1,700 pounds

Cutting head shall have a minimum 1/2" solid steel sidewall on drive side and 3/8" on carrier side

Bonnet shall be a minimum of 7 gauge 80,000 PSI yield steel

Cutting head shall have replaceable skid shoes

Cutting assembly shall have operating speed of 2,400 RPM at rated tractor RPM

Knife swing circumference shall be a minimum of 58 1/2"

Gearbox shall be reversible.

Cutting head shall be rated for 540 RPM PTO

PTO shaft shall have a minimum rating of 65 horsepower.

Cutter head shall have PTO shaft storage yoke



Unit shall have three point hitch Category I and II mountings.
Rear safety discharge flap shall be provided.
Reverse rotation models shall be equipped with steel front deflector

The unit shall be delivered complete and ready for use to the delivery destination, then tested and placed in service with detailed instructions and training of Department personnel.

COLOR - Color to be Federal Standard #595B (Colors Used in Government Procurement) "Highway Yellow" #13432 or manufacturer's standard safety or industrial yellow over a prime coat. (IF YOU HAVE ANY QUESTIONS REGARDING COLOR PLEASE CONTACT THIS OFFICE.)

NOTE: Complete unit must be manufactured in accordance with the latest adopted OSHA or SAE Standards and amendments thereto.

The Missouri Department of Transportation Commission reserves the right to waive technicalities and to reject any or all bids and no bid is final until formally accepted by the Commission.