	The purpose of these contract specifications is for a new 2WD diesel cabbed tractor/mower combination. Current year 2022		
	General		
	It is the intent of this specification to describe an industrial self-propelled mower tractor. The unit shall be the manufacturers current production model meeting or exceeding the terms of this specification. For any offer to be considered all items must be of a standard production model and not modified for bid purposes.		
	SPECIFICATIONS REQUIRED	**COMPLY**	**YES/ NO EXCEPTIONS, DEVIATIONS, and ANSWERS**
T1.0	**ENGINE:**		
T1.1	Diesel Engine/Tier 4		
T1.2	In-line 4-Cvlinder Diesel Engine, Turbocharged and intercooled		
T1.3	3.4 L (207 Cu. In.) Displacement		
T1.4	86 Engine Horsepower @ Rated Speed		
T1.5	73 SAE PTO Horsepower @ Rated Speed		
T1.6	Vertical Exhaust		
T1.7	SCR & Cooled Exhaust Gas Recirculation system		
T1.8	30-gallon fuel tank minimum with Guard		
T1.9	2.8-gallon AdBlue DEF tank capacity		
T2.0	**TRANSMISSION:**		
T2.1	12 Forward /12 Reverse Dual Power Synchronized Shuttle		
T2.2	Forward Reverse Power Synchronized Shuttle		
T2.3	Mechanically Actuated Park Brake		
T2.4	Speed Range up to 19 mph (30 kph)		
T2.5	Neutral Safety Start System		
T3.0	**STEERING. BRAK ES DIFFERENTIAL:**		
T3.1	Hydrostatic Power Steering		
T3.2	Hydraulic Wet Brakes		
T3.3	Rear Axle Differential Lock		
T4.0	**HYDRAULICS:**		
T4.1	Dual Pump, Open Center Hydraulic system with 16.9 gpm (63.9 1pm) Implement Pump and 9.7 gpm (37.0 1pm) Steering Pump@ Rated Speed, Total flow: 26.6 aom		
T4.2	2 SCVs with Flow Controls and Adjustable Dents; Mechanical; ISO Breakaway Couplers		
T5.0	**REAR PTO:**		
T5.1	540 PTO Speed, 1-3/8 In. 6 spines		
T5.2	Flip-up PTO shaft guard		
T5.3	Wet Clutch		
T5.4	Neutral Start Safety System		
T6.0	**ROCKSHAFT HITCH AND DRAWBAR:**		
T6.1	Mechanical Draft Control		
T6.2	Draft Sensing Top Link		
T6.3	Category II, 3-Point Hitch Telescoping stabilizers and flexible Link Ends		
T6.4	Flexible Lower Link Ends		
T7.0	**INSTRUMENTATION:**		
T7.1	Tachometer		
T7.2	Speedometer		
T?.3	Hour Meter		
T?.4	Fuel Gauge		
T7.5	Engine Oil Pressure Warning light		
T7.6	Coolant Temperature		
T7.7	PTO Engagement		
T7.8	Fuel System Water Separator Warning Light		
T?.9	Directional Indicators		

T7.10	Hazard Switch		
T7.11	Park Brake Indicator		
T8.0	**CAB OPERATOR STATION:**		
T8.0-A	**Am/Fm Bluetooth radio**		
T8.1	Air Conditioning and Heater		
T8.2	2 Doors		
T8.3	Front Fixed Windshield Wiper and Washer		

T8.4	Rear Window Wiper and Washer		
T8.5	Air Suspension Seat		
T8.6	Adjustable Tilt Steering Column		
T8.7	Left Hand Footsteps		
T8.8	Operational Controls, RH Console		
T8.9	Floor Mat		
T8.10	Foot Throttle Control		
T8.11	Power Outlet		
T8.12	Overhead Courtesy Light		
T8.13	Cup Holder		
T8.14	RH & LH Fixed External Mirrors		
T9.0	**ELECTRICAL:**		
T9.1	Key Shutoff		
T9.2	12-Volt Electrical System		
T9.3	12-Volt Battery, 800 Cold Cranking Amps		
T9.4	120 Amp Alternator		
T9.5	7 Terminal ASAE Outlet Socket		
T10.0	**LIGHTS:**		
T10.1	Two Front Halogen Headlights		
T10.2	Two Front Roof Lights LED		
T10.3	Two Rear Roof Lights LED		
T10.4	Flashing Hazard Lights LED		
T10.5	Two Rear Fender Taillights with Brake Lights LED		
T11.0	**FRONT AXLE WHEELS AND TIRES:**		
T11.1	2WD		
T11.2	Steel Wheels		
T11.3	9.5L 14 4 Rib 8 Ply tires		
T12.0	**REAR AXLE WHEELS AND TIRES:**		
T12.1	Flange Axle		
T12.2	8 Position Steel Wheels		
T12.3	16.9-30R1 tires		
T13.0	**MISCELLANEOUS:**		
T13.1	Operator's Manuals (English) and Holder (2) 1 in Digital		
T13.2	SMV Emblem and mounting hardware		
T13.3	Horn		
T14.0	**WARRANTY**		
T14.1	List Warranty options		
	NOTES: list of Warranty options to cover Engine, Transmission, Electrical and Tier 4 filter system		
	NOTE: SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.		

General FT4 Conv- TSF-755D

It is the purpose of the following specifications to describe a self-propelled, hydraulically powered flail type mower which shall mow forward and right of rear tire. The side mounted unit shall be designed to interchange with a 60" or 90" side mounted flail mower, a 50" or 63" flail boom mower, a 22" rotary ditcher or a 22" rotary boom ditcher. The unit shall be of the manufacturer's current production model, meeting or exceeding the terms of these specifications. Unit(s) shall be the manufacturer's most heavy-duty model available. The manufacturer shall furnish parts and operation manuals for the unit(s) bid. The manufacturer shall also guarantee equipment against defects in workmanship and materials for a period of (1) year. For any offer to be considered, all items must be of a standard production model, "not" modified for bid purposes. It is a requirement of this bid that vendor submit the pertinent information requested in each section marked "(VENDOR REQUIREMENT)". In the event the requested material and responses are not supplied, by the bidder, the bid submitted will be considered non-responsive and will automatically be rejected.

Line Number	SPECIFICATIONS REQUIRED	COMPLY YES/NO	LIST (IN DETAIL) ANY EXCEPTIONS AND/OR DEVIATIONS.
81.0	**SAFETY AND TESTING**		
81.1	Shall meet the following industry standards: SAE: J1001, J284, J990, J1065. ANSI/ASAE- S201.4, S203.13, S205.2, S279.12, S350, EP363.1. ASTM: A370, (VENDOR REQUIREMENT) Submit compliance report signed by a registered Professional Engineer (PE).		
81.2	Safety Shielding must include Foot Probe guarding as described in SAE Standard J1001. A safety guard consisting of a horizontal bar that is welded to the front cross tube with a 3/8" thick styrene butadiene rubber attached to the bar shall be standard on all side and rear flails.		
81.3	Non-restrictive mower control valve shall stop cutter assembly in 7 seconds at full RPM.		
81.4	Safety discharge flap shall be provided.		
81.5	Travel and transport positive hook and pin locks shall be required.		
81.6	Rubber deflector shield shall be bolted to back of bonnet.		
81.7	Forward rotation models shall have internal formed steel baffle. Reverse rotation models shall be equipped with front deflector.		
82.0	**MAIN** FRAME		
82.1	Main Frame shall be constructed to be supported on the front tractor bolster, center of tractor and rear axle housings, to absorb side torque and impact of severe applications.		
83.0	**FLAIL SPECIFICATIONS**		
83.1	Cutting width shall be at least 60" of actual cut.		
83.2	Side cutter assembly shall be flail type, hydraulically powered.		
83.3	Side Flail assembly weight shall be a minimum of 3477 pounds.		
83.4	Cutting height shall be adjustable from -1/2" to +6". (It shall not be necessary to remove the roller mounting brackets to adjust cutting height)		
84 .0	**MOUNTING SYSTEM**		
84.1	Mainframe of the mower is properly braced to rear axle and front axle housing to absorb side torque and impact.		

B4.2	Lift assembly shall have one single acting and one double acting hydraulic cylinders controlling inboard and outboard ends of cutter head. Cutter Head control (tilt) shall be accomplished by means of direct connected linkage to a double acting cylinder, allowing precise operation of cutting assembly. A single acting cylinder provides lift for the cutter head		

8 5.0	**HYDRAULICS**		
85 .1	Hydraulic motor shall have an output rating of 81 H.P.		
85.2	Motors shall have cast steel housing with steel gears.		
85.3	Hydraulic pressure connections shall meet SAE O-ring and JIC standards.		
85.4	Reservoir shall be internally treated against corrosion with industry approved chemical agent at time of manufacture. Reservoir shall have a in tank filter rated at 75 GPM, 10-micron, 200 betas, element with bypass, restriction gauge, minimum (1) one PSI pressure at suction outlet and have ball valve at suction line. Tank pressurized to 3 PSI. (VENDOR REQUIREMENT) Submit material used to treat reservoir (include MSDS sheet). Type, design and micron size of filter element.		
85.5	Hydraulic oil shall meet a cleanliness standard of ISO 46 rating. (VENDOR REQUIREMENT) Submit report of oil sample used.		
85.6	Hydraulic pump shall be gear type with rating of 98 input H.P. 45.1 GPM at 3 250 PSI.		
85.7	Pressure and return system hoses shall be 1" unrestricted inside diameter. Hoses shall have a burst pressure of 4 times working pressure.		
85 .8	Mower lift functions shall be supplied by tractors remote lift valves.		
85.9	Mower control valve shall stop cutter assembly in maximum of 7 seconds from full RPM. (VENDOR REQUIREMENT) State time to stop from full RPM.		
85.10	Hydraulic hoses and tubes shall be cleaned with pneumatic, triple projectile cleaning, and shall maintain a JDS-G169, class 5.6. ISO cleanliness rating. (VENDOR REQUIREMENT) Submit method of cleaning and standard met.		
85.11	Suction line shall be an unrestricted 1-1/4" inside diameter. (Specifically excluding suction filters and screens)		

87.0	**CUTTING HEAD**		
87.1	Drive belt system shall have automatic belt tightener. I(Specifically excluding back bend belt tightener)		
87 .2	Cutter head arc shall be 150° from vertical position.		
87.3	Cutter head shall have replaceable skid shoes.		
87.4	Cutter head shall have a minimum of 20-1/4" of inboard travel.		
87.5	Cutting bonnet thickness shall be 10 gauge, 80,000 lb yield steel with 1/2" drive side and 3/8" carrier side steel end plates.		
87.6	cutting head shall have replaceable skid shoes.		

88.0 CUTTER **SHAFT**

88.1	Cutter head shall have 80 forged, hardened to 40-50Rc, self-cleaning, reversible all-purpose knives, or 40 smooth cut grass knives. (VENDOR REQUIREMENT) Vendor to indicate type of material and hardness of cutter knives.		
88.2	Cutter shaft shall have operating speed of 2,400 RPM at rated tractor RPM.		
88.3	Cutter shafts must be dynamically balanced, 4 3/4" diameter, 3/8" wall tubing with 1 15/16" diameter bearings, bearings shall be manufactured in the US. Each Bearing race shall have 2 set screws, counter-sunk into cutter shaft end shaft to prevent movement. (VENDOR REQUIREMENT) Vendor shall indicate: Country of bearing manufacture, size type		
8 8.4	Cutter shaft shall have maximum clearance of 3/32" from bearing wrap protection.		
88.5	Knife swing circumference shall be a minimum of 46.6".		
88.6	Knife interchangeability shall not require change of cutter shaft.		

89 .0	**GROUND ROLLER**		
89.1	Ground roller system shall be a horizontal tube with replaceable stub shafts located at each end. A bearing assembly shall be in the ends of the roller adjustment bracket located at each end of the cutter housing, and connect to the roller through the stub shafts.		
89.2	Ground roller shall be 6 5/8" outside diameter tube with .280" side wall and constructed of A53 steel. 5/8" thick stub shaft mounting plates shall be welded to the tube in both ends. Convex cast end caps shall be mounted at the ends of the ground roller to protect the bearing and prevent scalping.		
89.3	Stub shafts shall be of the replaceable, bolt in design, with a 3 5/8" x 1/2" piloted flange, and attached to roller with 4, 7/16" x 1 1/2", NC, Grade 8, internal hex cap screws. Stub shaft shall be solid 1 piece design, with 1 3/8" bearing surface, outer diameter of not less than 5 1/4".		
89.4	A 1 3/8" double row spherical bearing shall support roller shaft on each end. Inner bearing area shall be protected by a full double lipped seal. Bearing shall be secured to the stub shaft with 2, 5/16" x 1/2" piloted set screws, located 60° form each other. Outer bearing cap shall be O-ring sealed, piloted to bearing and attached with not less than 6, 8-32 x 1/2", stainless steel, internal hex screws. (VENDOR REQUIREMENT) Vendor shall describe attachment of bearing to stub shaft, and design of outer bearing cap.		