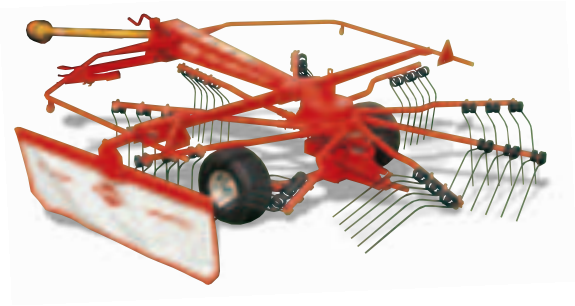
GA

Gyrorakes
Trailed single rotor models

KUHN

175
Years of Excellence

HAY MAKING AT ITS BEST!



KUHN trailed single rotor Gyrorakes

Meeting the needs of tomorrow's farmer today.

KUHN, the pioneer in rotary rakes continues to provide farmers with Gyrorakes that increase productivity while reducing losses in the field.

KUHN Gyrorakes:

- Increase the nutritional quality of hay and forage with gentle raking - higher quality hay and forage that ultimately increase profits.
- Expand productivity with extended working widths and high capacity designs while maintaining maneuverability - reduce operating costs in the field.
- Benefit from a long list of useful innovations like double bent tangential tine arms and fully enclosed gearboxes. These innovations increase performance and reduce maintenance costs.
- Quality and reliability from the world's leading manufacturer of rotary rakes - solid support and a high resale value.

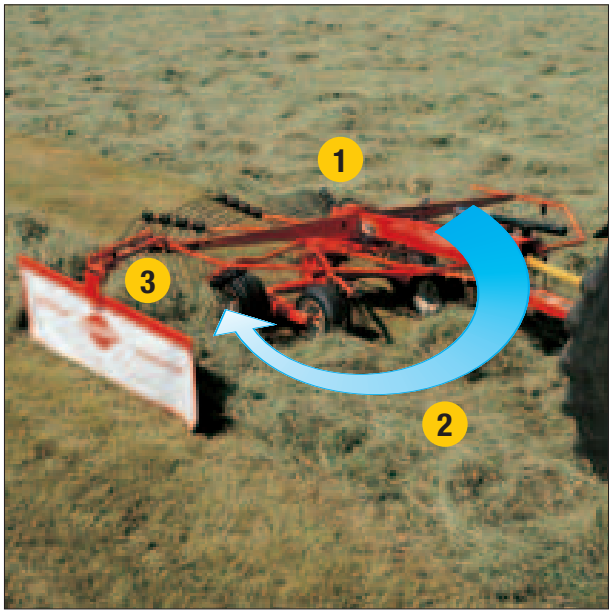
The production of quality forage is the key to feeding performance and optimizing profitability. KUHN Gyrorakes make this happen!

GA 4120 TH GYRORAKE

Superior raking. Decreased drying time. High quality hay or haylage. Reliability and resale value. Only a KUHN Gyrorake meets all of these demands.

At the dawn of the 21st Century the need for farmers to remain competitive is stronger than ever. For hay producers the rotary rake is one of the best implements available to increase profitability. Clean raking, faster drying times, high productivity, and superior bale quality (from the exceptional windrow formation) are all benefits of using a KUHN rotary rake.
In the last hundred years parallel bar and finger wheel rakes have seen little in the way of improvements and innovation with some of the greatest changes being the shift in operation from horse to tractor. In marked contrast the evolution of the rotary rake, since its debut over 30 years ago, has been continuously improved to meet the ever-changing needs of farms. And KUHN is the undisputed leader in innovation.

How a KUHN rotary rake works

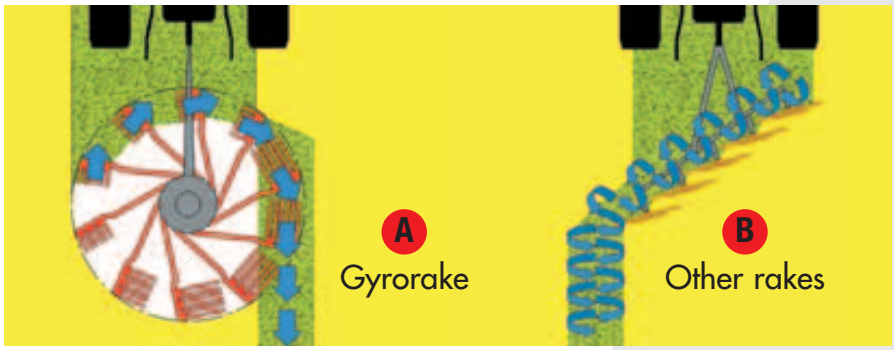


1. The tines rotate into the raking position and start lifting the crop from the ground. The long tine length, (24 to 25 inches depending on model) allows unequalled capacity. Coil springs allow the flexibility needed to bypass rocks and soil that the tines may contact.

2. Tines only contact the crop once from the time the crop is gently picked up until it is placed into the windrow. This raking action is as gentle to the crop as if it were raked by hand. Leaves are left intact and remain affixed to the stems. Dirt and stones are not deposited into the windrow.

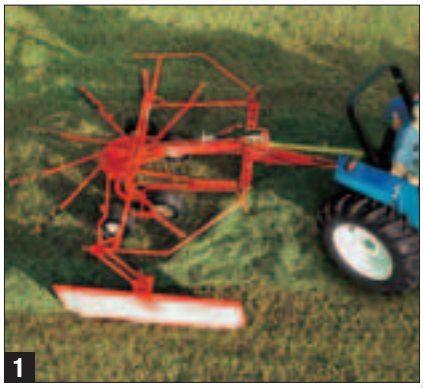
3. The patented tangential mounting and double curve of the KUHN tine arm forms a windrow that is large, light, and fluffy. The windrow shape maximizes penetration by air and sunlight accelerating the drying process and reducing drying time.

Make hay dry faster with a KUHN rake



Faster Drying and no Roping!

The windrow formed by a KUHN Gyrorake is not roped (A). The large evenly formed windrow not only improves drying but also feeds better into baler and chopper pickups for more uniform baling and chopping. Other rake types (B) form a roped windrow that dries poorly and tends to "slug" feed into a baler or chopper.



Maximize productivity!

Decreased drying time through the use of a rotary rake means hay crops can more often be cut, based on maturity instead of the weather forecast. Hay benefits from the higher feed value gained by cutting at the proper time and less nutrients are lost due to bleaching by over-exposure to the sun or rain. Hay produced by this method puts more milk in the tank, weight gain on cattle, and money in the bank.

1. Consistent quality raking

Even when turning, the tine arms sweep along the same path, so the output of a KUHN rotary rake is even and consistent. Therefore there is no problem cleaning up headlands, corners, and curves. Compare this with the ability of belt mergers, parallel bar, and wheel rakes whose raking ability is compromised when turning.

2. Clean crop

With a design that does not require tine contact with the ground, and with long flexible tines to overcome field irregularities and stones, there is little chance of dirt, dust, or stones ending up in the windrow. Clean hay or haylage not only prevents damage to baling and chopping equipment but also has a higher market value, and is a more palatable feed. Increased palatability increases consumption and milk or meat production.

The climate's right to go rotary!

	Rotary	Parallel Bar	Belt Merger	Wheel
Dirt and Stones in Windrow				
All Terrain Ability				
High Capacity				
Roping of Windrow				
Fast Drying				
Gentle Raking of Tedded Hay			Not Possible	
Clean Raking of Tedded Hay			Not Possible	

KEY — Most Favorable | Good | Fair | Least Favorable

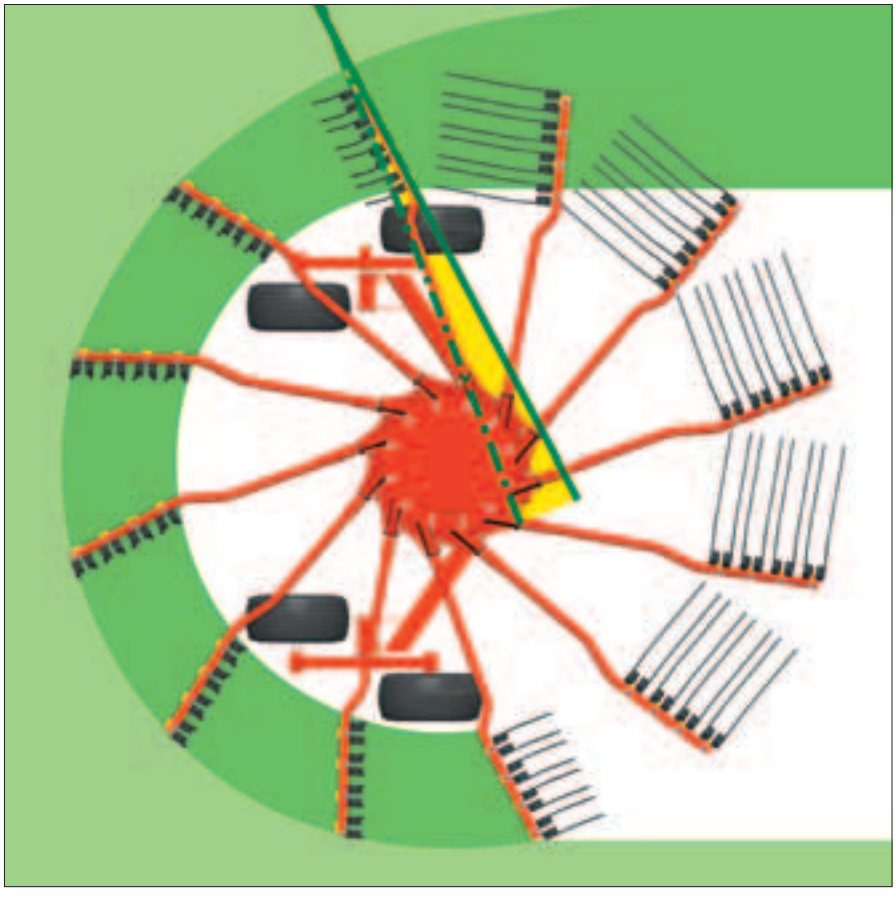
KUHN Gyrorake strong points

Since producing the first rotary rake with guided tine arms, KUHN rotary rakes have always been considered the "Gyrorake". The trailed Gyrorakes from KUHN feature high flotation tires and standard bogie axles on the GA 4120 TH, GA 4121 GTH and GA 4521 GTH. This enables a high working speed while at the same time ensuring maximum raking quality. KUHN Gyrorakes also are capable of inverting or merging hay.

Ultra-Reliable Rotor Drive

The patented MASTERDRIVE™ drive gearbox uses a double reduction system to drive the rotor.

1. The first reduction takes place in a rigid 90°, pinion type gearbox. As the pinions are held firmly in place by the gearbox casting there is no chance for movement that could cause excessive gear lash and broken gear teeth.
2. The second reduction takes place through a spur type "Bull Gear" drive. This arrangement allows for substantially over-sized gear teeth that are unaffected by any movement caused by the rake rotor and undercarriage operating under difficult conditions.
3. The MASTERDRIVE™ design allows the rotor rotation to be clockwise. The rake can now discharge a windrow on the right side. As the majority of implements operate to the right side, and as tractor controls are oriented to the right side, windrow delivery to the right provides a substantial increase in ergonomics. Control of the rake is easier and less fatiguing for the operator with less chance of operating mistakes and accidents.



KUHN quality and innovation

All these Gyrorakes are fitted with double curved tangential mounted tine arms. 3 advantages that make the difference!

1. Extra clearance at crop exit point

Additional clearance provided at the exit point in comparison to a straight tine arm allows:

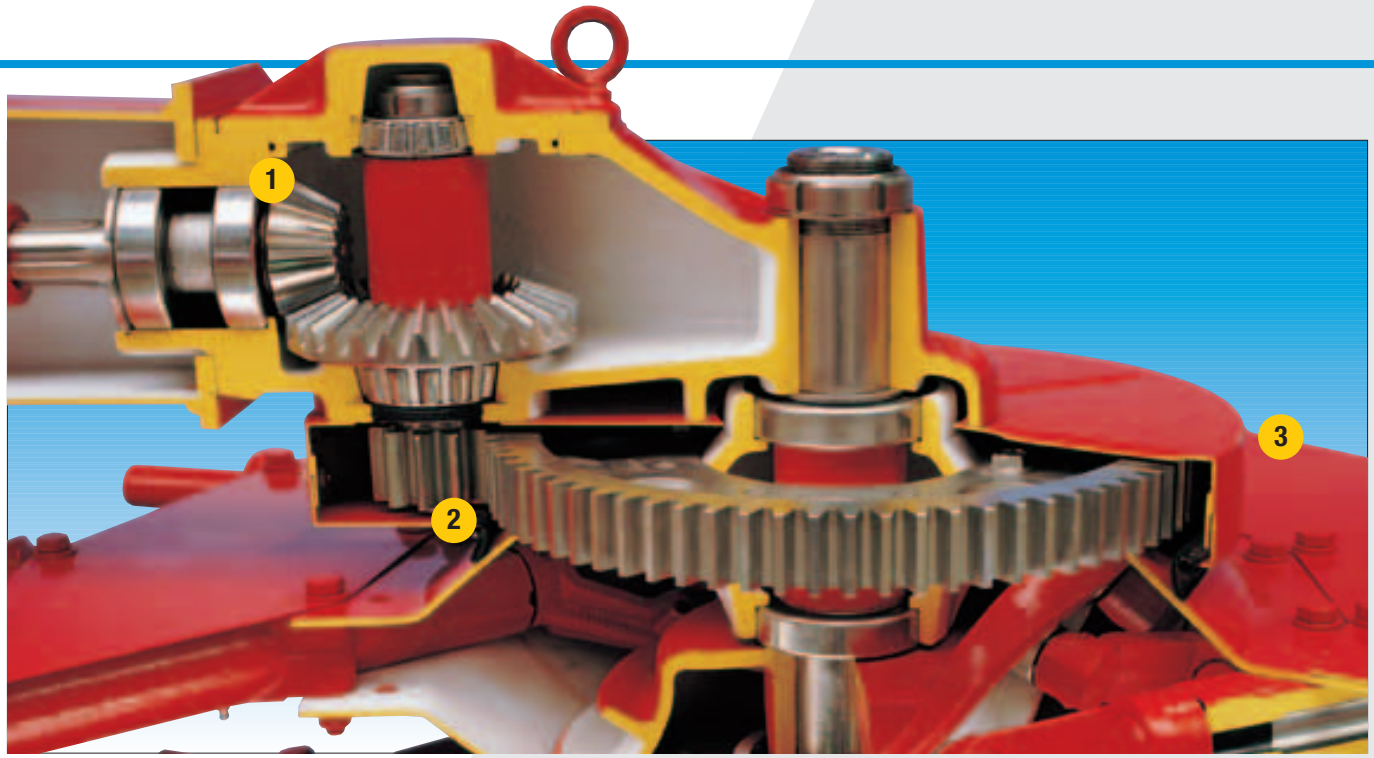
- The formation of larger, fluffier windrows
- No risks of pulling crop out of the formed swath
- Easier crop pick-up by the baler or forage harvester with minimum loss.

2. The tangential tine position means improved windrow formation

- The crop is pushed towards the rotor outside, thus towards the windrow,
- A cleaner windrow for silage making and baling.

3. A proven tine design for clean forage

The tine angle provides clean raking and gentle handling with minimal ground contact.



1. Double curved tine arms (A KUHN patent!)

The double curve design of the KUHN tine arm offers the following advantages:

- Ensure extra tine arm clearance over the windrow after the crop is released. This prevents the tines from packing the crop into the windrow and retains the light airy structure of the windrow.
- Minimizes wear. The tine coil axis and the tine arm axis are in alignment. This reduces stress and increases the service life.

2. High quality, specially designed tines

For a maximum service life, KUHN tines are manufactured to meet extremely high quality standards. In addition to being heat-treated, the tines receive a special final process that substantially increases the tine's resistance to fatigue. The curved profile of the tine provides clean raking and uniformly shaped windrows without sacrificing capacity. Original KUHN tines are always stamped with the KUHN logo. Accept no imitations or substitutes. Rotary rakes are unaffected by the direction of cut and can operate equally well either with or against the direction of cut. Parallel bar and wheel rakes will often only function acceptably if operated in the same direction as the direction of the cut. This means that greater efficiencies in operation and flexibility are possible with the rotary rake. This advantage has been maximized through the right hand delivery possible with the MASTERDRIVE™ system.

3. Large, high-flotation tires

KUHN's use of "Hyper-balloon" tires provides smooth operation over irregular ground, increased operating speeds, and prevents the formation of ruts on soft ground.

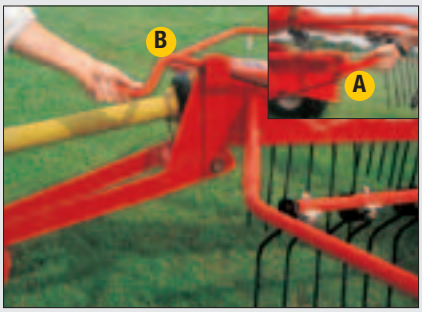
Simple to operate, economical with rugged construction

First of the trailed KUHN Gyrorakes, the GA 3200 GT has a working width of 10'5" (3.20 m) including the windrow. Very easy to use and requiring no hydraulics, the GA 3200 GT is an economical rake that will work well on older or smaller tractors with limited or no hydraulic capability. Ruggedly built with high capacity, the GA 3200 GT is ideally suited for small and medium sized farms.

TECHNICAL SPECIFICATIONS	GA 3200 GT
Working width including windrow	10'5" (3.20 m)
Clean swept width (approximate)	7'5" (2.23 m)
Attachment	Drawbar Trailed
Number of tine arms	9
Number of double tines per arm	3
Height/Lift adjustment	Spring assisted handle
Tires	Hyper-balloon 18x8.50-8
Transport width	8'10" (2.70 m)
Weight	660 lb. (300 kg)

Bogie wheels

Available as an option, bogie wheels enable increased working speeds and smoother operation over irregular ground.



Simple and straightforward height adjustment

For optimum raking, the tines should be set only as low as required to cleanly rake the crop without touching the ground. As stubble height varies, the height of the tines can also change. Adjustment of the tine height is carried out with two simple steps:

A By using the spring assisted lever (A), the rake tines are set to the required height. This lever is also used to raise the rake for transport.

B Crank (B) is used to level the rake from front to rear and to adjust the rake to various drawbar heights.

Constant velocity PTO shaft

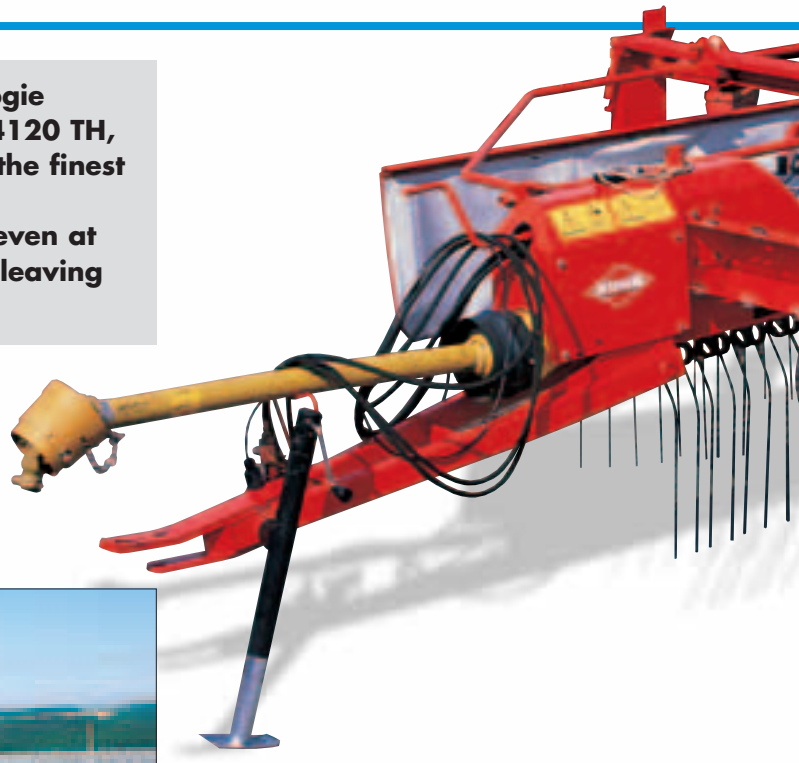
For maximum maneuverability without chatter, the GA 3200 GT is fitted with a constant velocity PTO shaft as standard equipment. Allows the tightest turns without the worry of driveline chatter and wear.

Adjustable windrow curtain

Windrow width can be varied to match conditions by moving the curtain in and out.
In addition, the curtain can be adjusted in height and from front to rear for precise adjustment.

Rakes that meet demanding applications

With 4 double tines on each arm, standard bogie wheels, and dual-point hydraulic lift, the GA 4120 TH, the GA 4121 GTH, and the GA 4521 GTH are the finest trailed single rotor rakes on the market.
With unsurpassed capacity these rakes excel even at higher working speeds over irregular ground leaving large, fluffy, fast drying windrows.



TECHNICAL SPECIFICATIONS	GA 4120 TH	GA 4121 GTH	GA 4521 GTH
Working width including windrow	13'5" (4.10 m)		14'9" (4.50 m)
Clean swept width (approximate)	9'5" (2.87 m)		10'4" (3.15 m)
Attachment	Drawbar Trailed		
Number of tine arms		10	13
Number of double tines per arm	4		
Rotor raising	Hydraulic		
Tires	Hyper balloon 18x8.50-8		
Transport width	11' (3.35 m)	6' 3" (1.95 m)	7' 3" (2.20 m)
Weight	1290 lb. (584 kg)	1370 lb. (620 kg)	1950 lb. (885 kg)

Exclusive swath screen adjustment

The swath screen design uses a parallelogram system. No tools and minimal effort are required for adjustment. When extended outward the screen automatically moves to the rear and while retracting the screen automatically moves to the front. In this way, the screen is always correctly placed in relation to the crop trajectory. For increased comfort, the GA 4521 is equipped with a windrow curtain adjustable hydraulically.

High ground clearance

Thanks to a dual-point hydraulic lift system with cylinders fitted to both the undercarriage and the drawbar, these rakes raise level at the front and rear. The high ground clearance obtained allows the rake to cross cleanly over windrows in the field.

Standard Bogie axles

The standard bogie axles allow higher speeds and smoother operation over rough and irregular terrain. Furthermore, the wheels are positioned closely to the tine path. Tines follow the ground more evenly putting more hay and less dirt in the windrow.

Reduced transport width of 6'3" (1.95 m) - GA 4121 GTH 7'3" (2.20 m) - GA 4521 GTH

For significantly reduced transport width and storage requirements the guards and swath screen are folded up. Easily detachable tine arms are then stored in a rack located at the front of the machine.

TECHNICAL SPECIFICATIONS	GA 3200 GT	GA 4120 TH	GA 4121 GTH	GA 4521 GTH
Working width including windrow	10'5" (3.20 m)	13'5" (4.10 m)		14'9" (4.50 m)
Clean swept width (approx.)	7'5" (2.23 m)	9'5" (2.87 m)		10'4" (3.15 m)
Attachment	Drawbar Trailed			
Number of tine arms	9	10		13
Number of double tines per arm	3	4		
Tangential tine arms	Standard			
Removable tine arms	-		Standard	
Transport width	8'10" (2.70 m)	11' (3.35 m)	6'3" (1.95 m)	7'3" (2.20 m)
Fully enclosed gearbox	Standard			
Constant velocity PTO shaft	Standard			
Rotor diameter	8'8" (2.65 m)	10'6" (3.20 m)		12' (3.65 m)
Tires	Hyper-balloon 18x8.50-8			
Bogie axles	Optional equipment	Standard		
Rotor raising	Spring assisted lever	Hydraulic w/adjustable stop		
Drawbar height adjustment	Crank	Hydraulic w/adjustable stop		
Weight	660 lb. (300 kg)	1290 lb. (585 kg)	1370 lb. (620 kg)	1950 lb. (885 kg)
PTO power requirement	20 hp	30 hp		35 hp

YOUR KUHN DEALER

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