

LINER

**CLAAS**

Every stalk counts.



Systemized forage harvesting.





Every minute counts during forage harvesting. What you need is a partner who can offer much more than just robust machinery. Outstanding product quality and excellent customer service are required, for example. And a continuous forage harvesting chain which precisely integrates every process, from mowing to tedding and swathing through to collection.

Thanks to our expertise and experience, we are today one of the leading providers of systems involving forage harvesting. But we have always kept our feet on the ground. Whether you are farming 10, 100 or 1,000 acres, you will always find the right solution for you in our product range. And our solution will guarantee you forage of the highest quality.

# Like clockwork.

## Perfect foundations.

Even, cleanly laid swaths are the trademark of all CLAAS LINERs.

This precision work is reliant on the machine's intelligent tine control system.

## CLAAS long-running cam track.

The large diameter and the gentle rise of the cam track ensure that the tine arms run smoothly, thereby producing clean raking during prolonged use without machine fatigue. Only minimal deflection forces are brought to bear on the cam rollers. The rollers run smoothly whatever the conditions, resulting in a significant increase in the service life of the cam track.

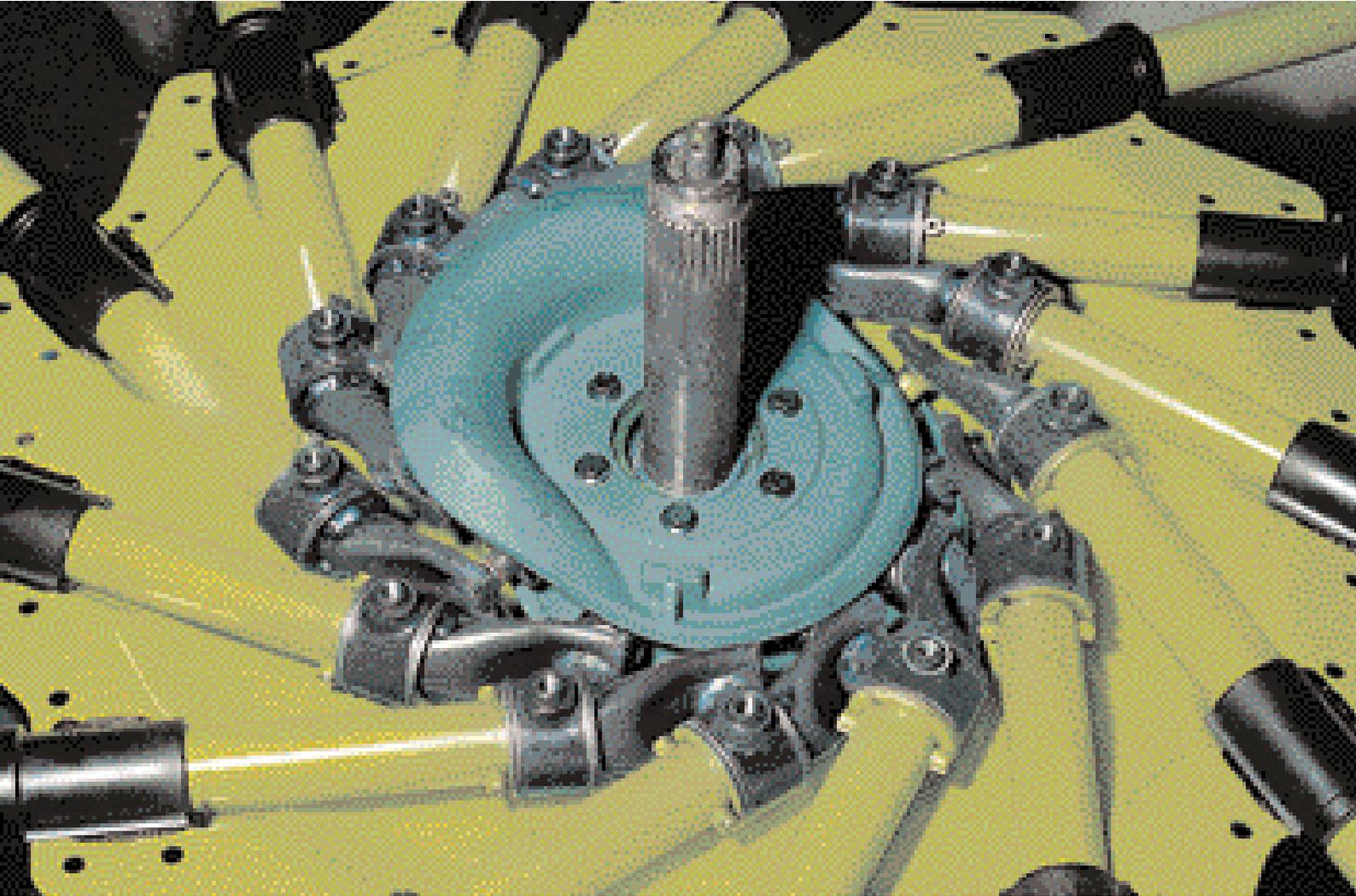
## Hermetically sealed.

Even the best steel wears eventually, unless all of the mechanical processes have continuous lubrication. It is this principle that CLAAS has chosen to adopt for its machines.



With the LINER 430 S, 470 S and 1550 TWIN PROFIL, you can easily and conveniently switch the cam track, thereby changing the tine control – one hand movement and it's done.





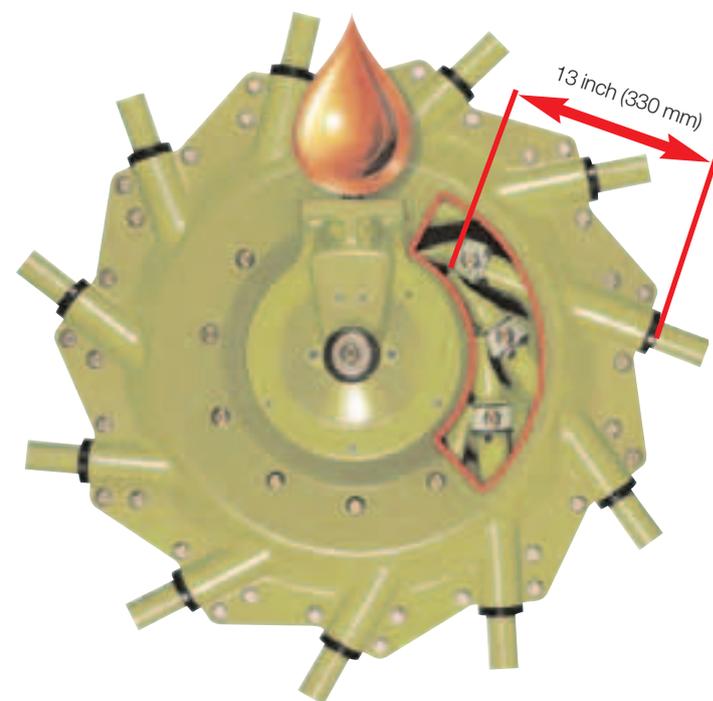
For many years, farmers and farm contractors have sworn by the enclosed bell-shaped top of CLAAS rakes. It lets nothing penetrate the machine, not even the tiniest of dust particles, so the system remains completely enclosed. The control rollers run smoothly in oil or low-viscosity grease.

### For continuous reliability.

- Continuously lubricated, hermetically sealed drive head.
- Completely maintenance-free with minimum wear, maximum service life and years of reliability.

### Dual bearings for high durability.

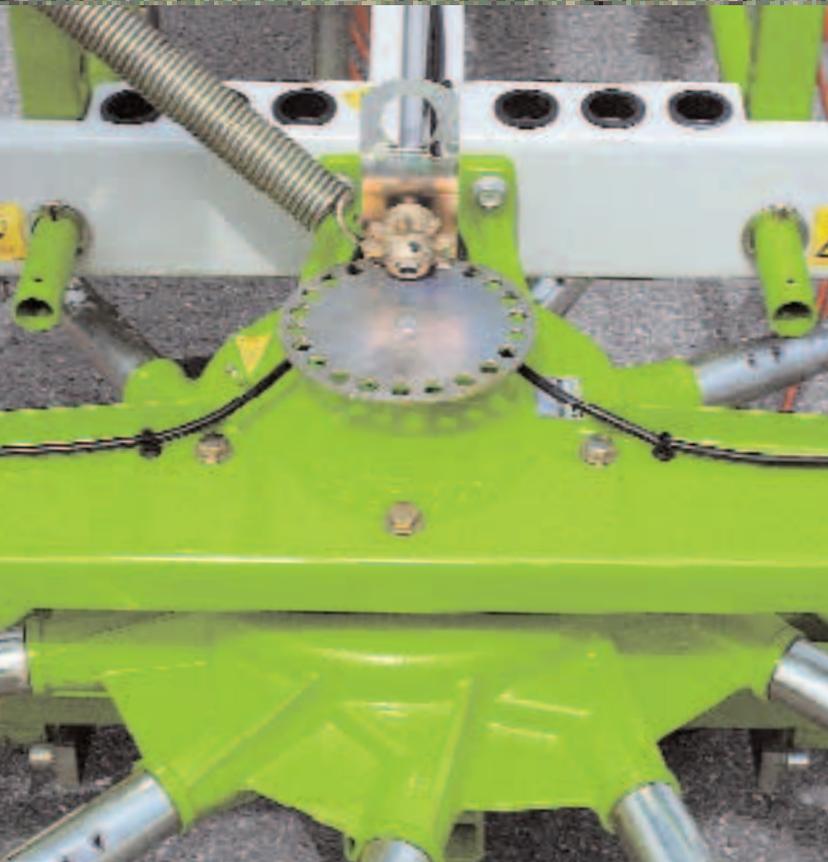
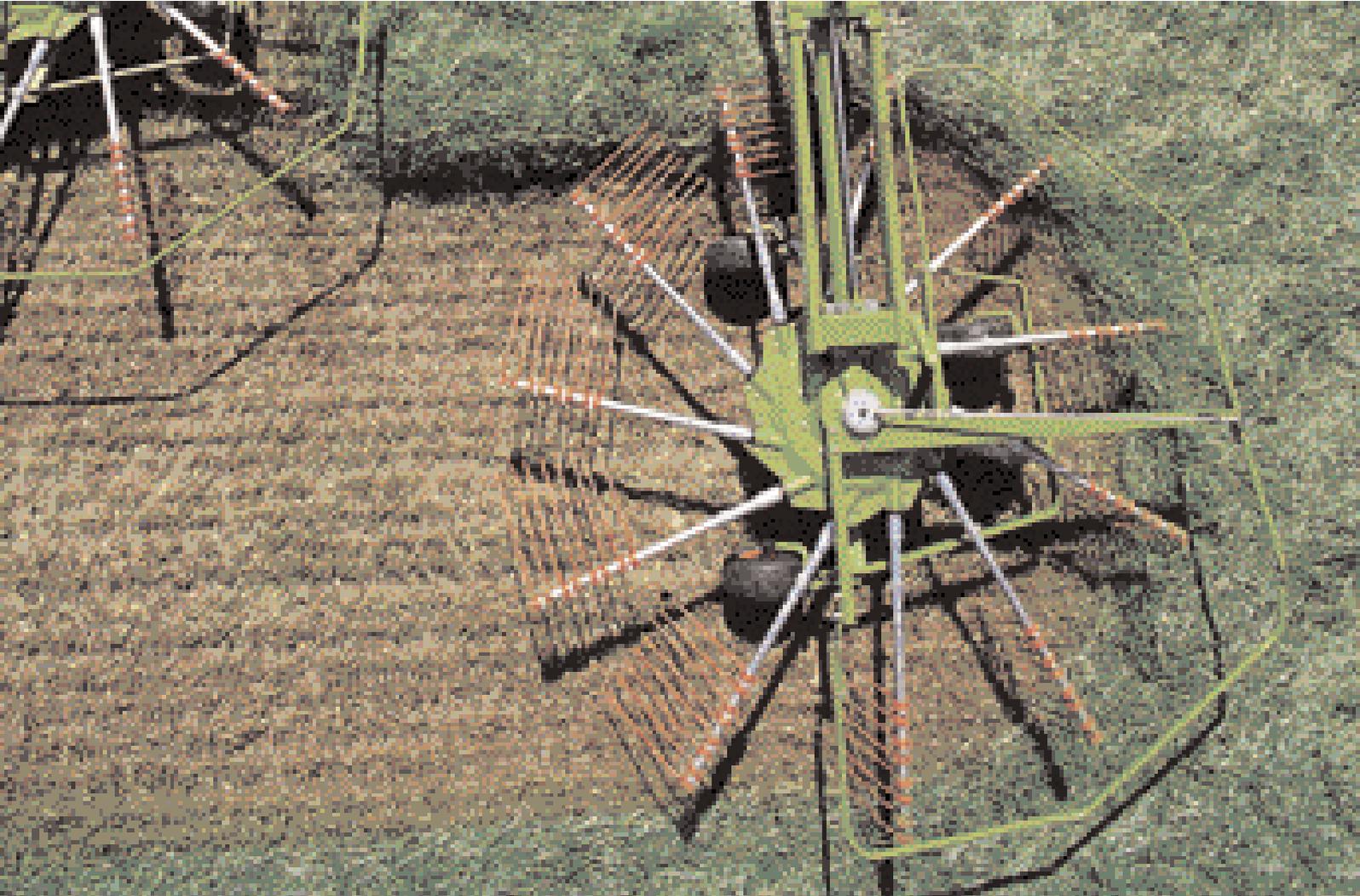
The dual bearings are mounted wide apart from each other thus protecting the tine arms from vertical loads. The high leverage forces acting on the tine arms are distributed evenly and this extends the service life of the cam track rollers. In addition, this rugged design is a guarantee of trouble free service, while improving performance and keeping the crop clean.



The steel control rollers run in low-viscosity grease on the larger models and in an oil bath on the LINER 650 S, 850 TWIN models.



Tine control  
Enclosed  
bell-shaped rake top

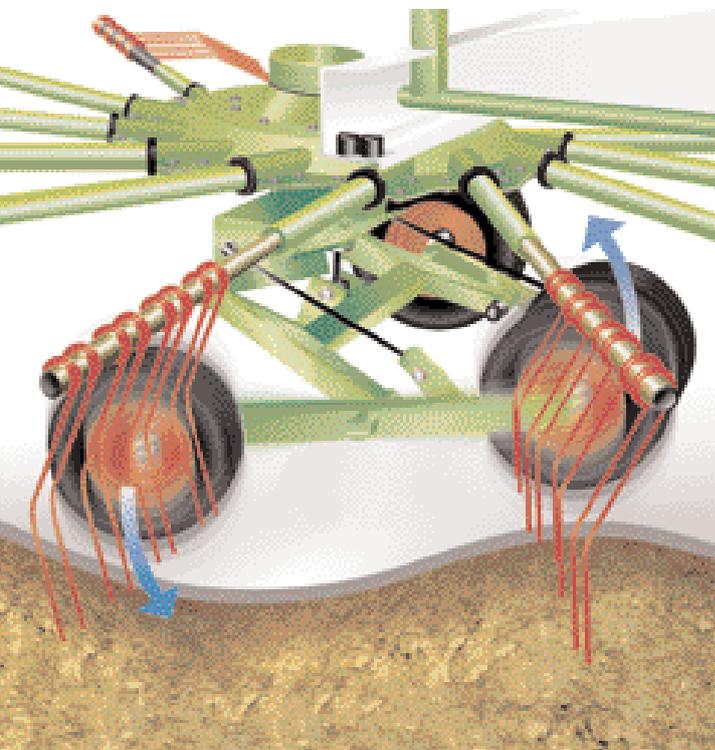


## Clean swaths.

Not every field is even and smooth – undulating, lumpy terrains are also part of the everyday business of harvesting. To overcome the problems which these present, perfect accurate ground following is crucial. With the CLAAS PROFIL or the CLAAS contour system, you can defeat every type of uneven surface.

The rotor height on the LINER can be set effortlessly, so you can quickly match the machine to different crop and field conditions.

# CLAAS PROFIL or CLAAS contour system – close to the ground all the time.



## CLAAS contour system.

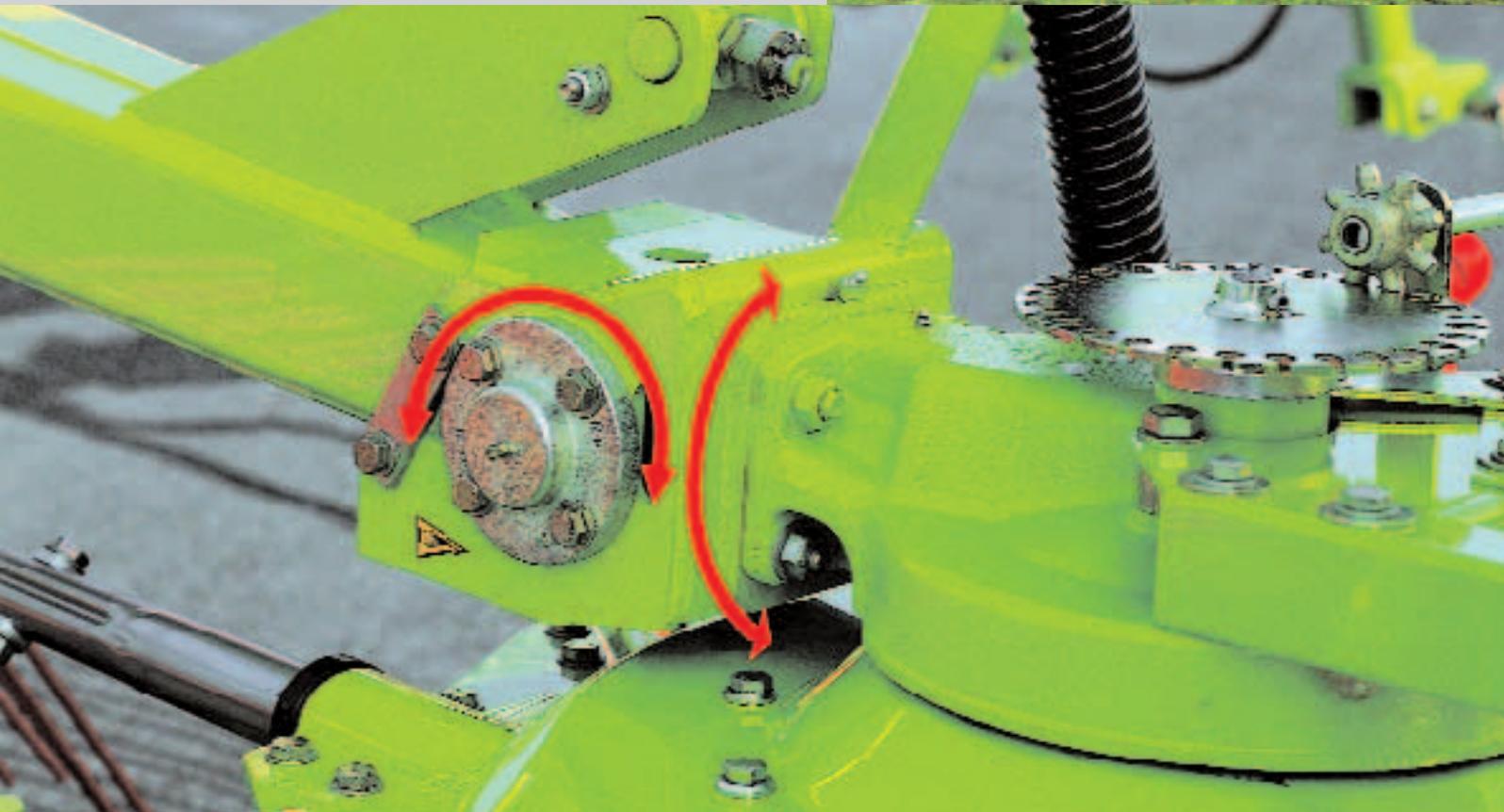
- Patented tandem axle for perfect ground following.
- Tandem rockers arranged in a V shape with four large-volume castor guide wheels, which run behind each other in a different track, sweep and scan the entire working width without damaging the sod.
- Extremely accurate tine guidance is achieved thanks to the close proximity of the running gear to the tines.
- The smooth running of the machine and high working speed combine to produce a greater hourly output.
- The wide track of the tandem running gear ensures a high level of stability and reliable rotor stability, even on hills.

The castor guide wheel on the three-point attachment frame and the chain top link allow you to guide the LINER cleanly and with precision over uneven and difficult ground surfaces.



CLAAS PROFIL  
CLAAS contour system

# CLAAS PROFIL – the third dimension.





## PROFIL – three-dimensional, clean and powerful.

- On all PROFIL swathers and the LINER 3000.
- Free-moving rotor frame, fully independent of the main frame.
- Perfect ground following on every ground profile and clean crop intake thanks to the ability to turn in two dimensions and long horizontal movements both longitudinally and transversely to the direction of travel.
- High travel speed thanks to the stability of the chassis which is fitted with large-volume tires.
- Clean crop intake and protection of the grass stubble.

## Improved contour following.

Each rotor turns on a four-wheeled chassis with large super balloon tires. Owing to the free-moving suspension, the rotors move both longitudinally and horizontally to compensate fully for unevenness on the field.





## Full product range.

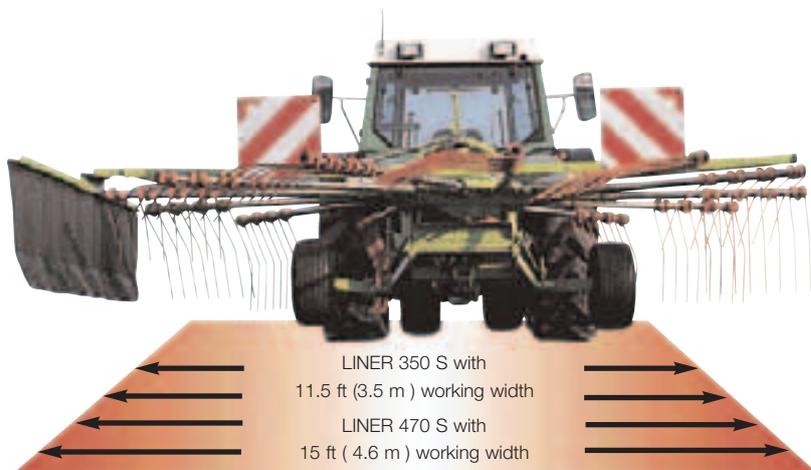
The LINER 350 S, 390 S, 430 S and 470 S are single rotor swathers suitable for smaller farmers who organise their work independently or contractors who frequently work in smaller fields. The working widths of 11.5 ft to 15 ft ( 3.5 m to 4.6 m ) are ideal.

## Reliable suspension from the exclusive CLAAS CKL power drawbar.

- Carrier frame suspension.
- No machine instability.
- Automatic locking of the three-point frame for road transport.
- Uniform contour following resulting in constant tine working height.
- No overrun on downhill slopes with the spring loaded braking cones in the arms.

## Extended life.

By designing the PTO connection well back into the swather, the PTO shaft is subject to less flexing and this adds to the shaft's service life.



These LINER models are fitted with strong protection frames that are quickly folded in and out.



# The single rotor LINER family – big performance for smaller areas.



## Accurate, clean work.

- Tandem axle with super balloon tires for low ground pressure and particularly smooth running.
- Castor guide wheel for the three-point frame and chain top link optionally available for perfect swathing independent of the tractor, even on uneven ground.
- Rotor height is easily adjustable from the driver's seat for perfect raking without crop contamination.



## Mobility.

The appeal of these single rotor swathers is their minimal transport width, thanks to the removable tine arms. Maximum ground clearance when lifting facilitates transport on any terrain.



The single rotor LINER



## Off you go.

Claas have also made the LINER 350 T and 470 T available as a trailed machine so that farmers with small tractors can also benefit from the advantages of a high performance swather. This model makes it possible to achieve very high work rates, making the most of the short harvest time available. Once hitched up to the tractor the machine stays in line behind the tractor in the field and on the road.

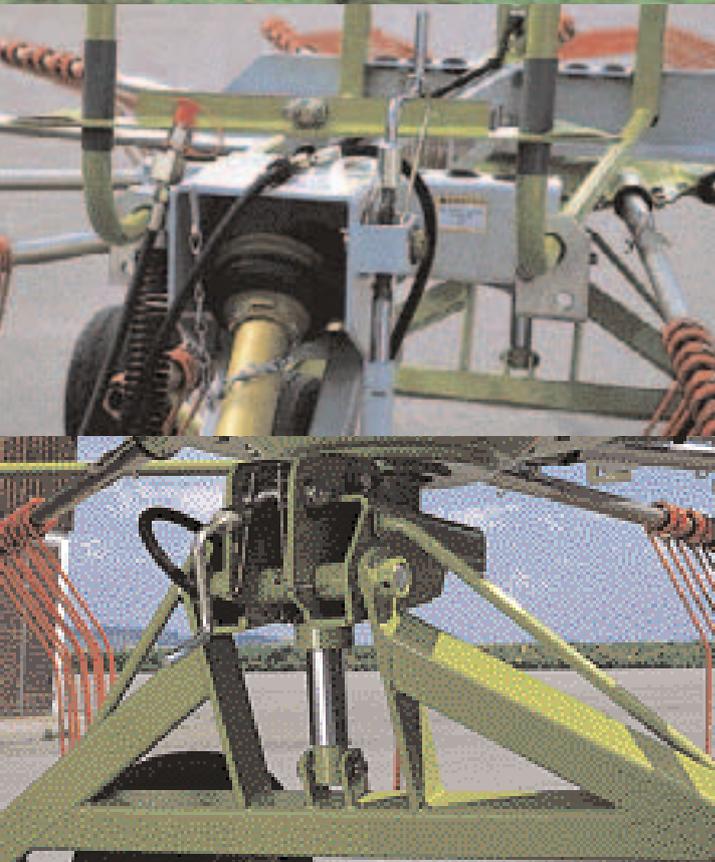
## Gentle, reliable, fast.

- Extremely stable and hermetically sealed control unit.
- Tine arm cam rollers run in low-viscosity grease.
- Double-mounted tine arms.
- 13 tine bars for 470 T, 11 for 350 T, each with four dual tines, guarantee clean and gentle swathing, even at relatively high working speeds.
- Single, wide angle universal drive shaft with overload protection fitted as standard for reliable power transmission, even in the tightest of turns.





# LINER 350 T & 470 T – extra width for small tractors.



## Comfortable in use.

- Only one single-acting spool valve is needed for raising.
- Parallel rotor lifting via two hydraulic cylinders on the drawbar and on the chassis ensures you can safely cross laid swaths.
- The rotor angle is set using a built-in crank handle fitted in the drawbar cylinder.
- Working height of the tines is easily adjusted to different forage conditions using a central crank lever.
- Quick folding protective frames and the removable tine arms guarantee a narrow transport width.

The V-shaped tandem axles and the large-volume tires keep the swather close to the ground all the time. An optional guidewheel improves contour following independently from the tractor, keeping the crop cleaner over difficult terrain.

LINER 350 T  
LINER 470 T



## Flexible to use.

Not all farmers or contractors make the same demands on a rake. The fields on which they are used come in all shapes and sizes, which is why farmers have wide ranging requirements when it comes to their machinery. The LINER 650 TWIN can meet all of these demands. Its large working width, low power consumption, high operating comfort and exceptional quality of its raking, combined with its multitude of applications based on crop flow, make the LINER 650 TWIN one of the most flexible partners for forage harvesting.

## Versatile and convenient.

- Trailed, twin-rotor swather with side discharge.
- Frame can be conveniently tilted hydraulically into three positions from the driver's seat using a double-acting spool valve.

Single swath discharge: located on the left side for crop discharge in one swath with infinitely adjustable working widths between 11 ft to 20.7 ft ( 3.5 m and 6.3 m).

With tine arms fitted and swath guard retracted, the transport width is 9.8 ft ( 3.00 m ). All eleven tine arms on both rotors can also be removed and the safety frame can be folded up, resulting in a reduced width of 7.2 ft ( 2.2 m ). Ideal for narrow gates, roads and and space-saving parking.

Double swath discharge: located on the right side for double swath laying with a total working width of 19.7 ft ( 6 m ).

Transport position: travels in a straight line behind the tractor.

## Extremely flexible: The CLAAS swivelling drive head.

The front rotor is linked to the main frame via a swivelling drive head.

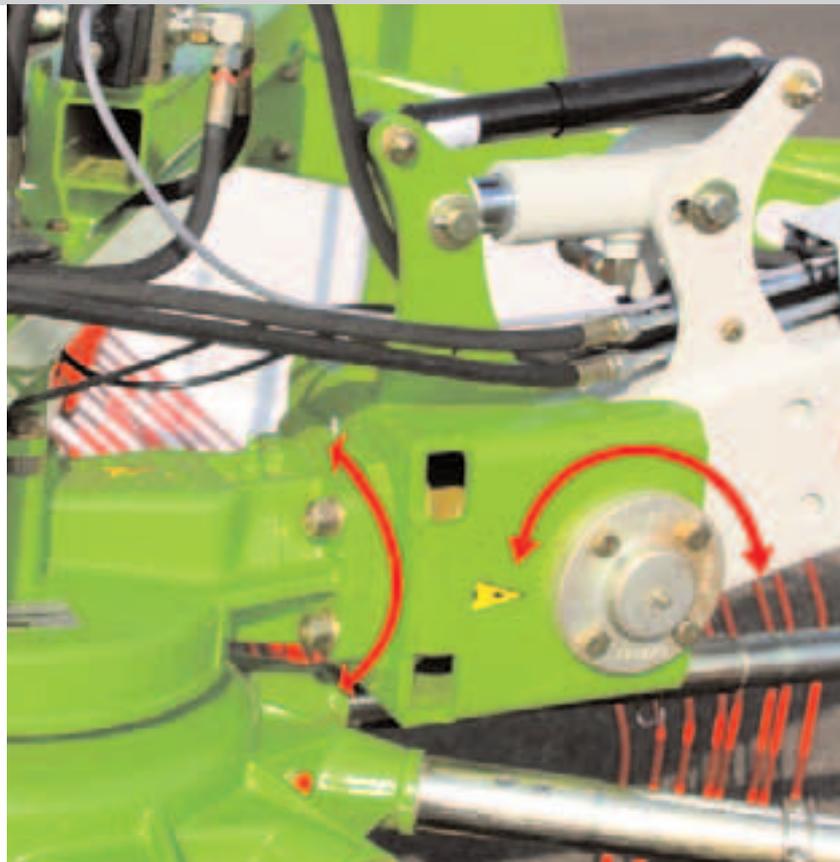
- Extreme manoeuvrability.
- Excellent stability on hills thanks to the close positioning of the transmission next to the tractor's rear axle.
- Drive train protection against flexion and distortion.



# LINER 650 TWIN – Flexible use.

## State-of-the-art ground following.

- Rear rotor suspension is fully independent of the main frame via two pivot points.
- On uneven ground, both rotors adjust independently of each other due to a horizontal movement of  $\pm 15^\circ$  both longitudinally and transversely to the direction of travel, allowing them to run smoothly and on track.
- Tandem axles with four wheels per rotor fitted with large tires (18 x 8.50-8 6 PR) for optimum stability in the road and clean working on the field.
- By positioning the wheels close to the tines, the whole rotor follows the ground profile.
- Extremely clean swathing, even in the toughest of ground conditions and at high ground speeds.
- Shock absorbers on the rear rotor ensure excellent handling and optimum ground following.
- Four dual tines per rotor.
- Castor guide wheel, which can be attached either on the right or the left and be adjusted completely without tools, is available as an option to ensure the front rotor accurately follows ground contours.



LINER 650 TWIN

# LINER 650 TWIN – simply comfortable.

## Exceptional operator comfort.

- Easy machine switchover from the driver's seat from single to double swath laying.
- Easy switchover from cutting to travel position.
- Hydraulic adjustment of the cutting width between 11.5 ft to 20.7 ft ( 3.5 m and 6.3 m ).
- Rear rotor lowering speed precisely adjustable by means of a regulator.
- Smooth and infinite raking height adjustment via a spindle equipped with a thrust bearing.
- Practical and stable jack with convenient height adjustment option.



## Like clockwork.

- Hermetically sealed tine control.
- Steel control rollers and tine arm mounts in closed oil bath.
- Minimum maintenance requirements, no tine arm lubrication, no wear.
- Long service life and long-lasting reliability.





## Unbeatable in the field.

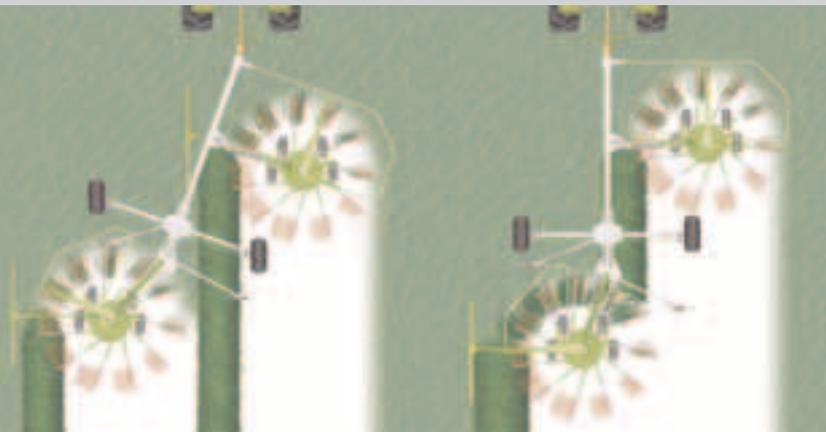
- Drawbar lifting cylinder is centrally located for an even distribution of forces and parallel lifting.
- Narrow turning circle at the headland, ground clearance and high clearance for travelling over laid swaths thanks to the rotor being hydraulically lifted more than 20 inch ( 50 cm ). The front wheel of the tandem axles are lifted off the ground at this point which creates even more free space and avoids them catching the crop.



Maximum working width or maximum overlapping. The cylinder can be switched to a second bore. Simply select your desired position.

LINER 650 TWIN

# LINER 1550 TWIN PROFIL – precise swathing, thorough clearance.





## A choice of swaths.

The LINER 1550 TWIN PROFIL is able to give you the choice between one large swath or two individual ones, depending on the yield and what machine is used to gather up the crop. If necessary, use these simple and fast adjustments and save valuable time. It's so simple. The wheel position is modified by extending the integral double-acting hydraulic cylinder in the steering linkage. The LINER 1550 TWIN PROFIL then crosses the field at an angle. All that needs to be done now is to reposition the second swath guard and you produce two swaths instead of one.

## Three dimensional independent tracking.

- Both rotors float fully independently from the main chassis to give them freedom of movement.
- The cardan suspension of the rotors moves in all planes and ensures close ground following, even at high speeds.
- Large tires on the rotor chassis for low ground pressure and facilitate straight tracking.

## CLAAS Synchronomatic.

- Sequential control at the headland for a clean end to the swath:  
Firstly the front rotor is lifted and then the rear one is raised to its stop with a slight delay.
- When the rotors are folded, the swath former automatically swings into the required position, without additional hydraulics.

## Compact transport package.

The road running gear between the rotors cuts the machine length. Large wheels with 6 hole rims for road travel make it simple to move from one field to another. The active chassis steering system on the LINER 1550 TWIN PROFIL keeps the machine in line behind the tractor.



LINER 1550 TWIN PROFIL



# LINER 3000 – the high performance rake for real professionals.

## Clean and fast clearance.

The LINER 3000 is designed for extra high work rates and is the right choice if you find that the swathing process is a bottleneck to production.

The four rotors effectively double the work rates compared to the dual rotor models. In one single pass, 41 ft ( 12.5 m ) of crop are turned into a uniformly shaped swath and laid in the centre of the machine. The box shaped cross section of the swath is your guarantee of consistently high output from the baler or forager used to clear the field, since the swath structure accelerates the crop intake significantly.

## System output boosted.

When used with the JAGUAR forage harvester, the LINER 3000 boosts chopping performance, with gains of up to 30% in forage harvester performance reported by many users. Higher work rates from the forage harvester reduce operating costs by a vast amount.

This makes the LINER 3000 an indispensable component in the high performance forage harvesting system and

explains the popularity of the CLAAS professional range amongst demanding contractors and large farmers.

## Perfect swaths.

- Full use of the working width and consequently optimum division of the field area to increase effective surface output.
- Simple headland management.
- Ideal working conditions for the driver and so fewer driving errors.
- Saves operating resources and working hours.

**profi**line



LINER 3000

# LINER 3000 – Adjusts to all ground conditions.



## Rugged hitching.

- Hitches up firmly to the lower tractor links.
- Single wide angle PTO drive shaft guarantees the narrowest of turning circles.
- Road speeds of up to 50 km/h gets it quickly from site to site.

## 3D rotor suspension.

- Fully floating suspension of all four rotors from the chassis.
- Perfect ground following is achieved due to the ability of the rotors to tilt longitudinally and transversely to the direction of travel.
- Large sized four-wheel rotor running gear.
- The wheels are positioned close to the tines for even and thorough raking performance across the full working width.



## Various running gear options.

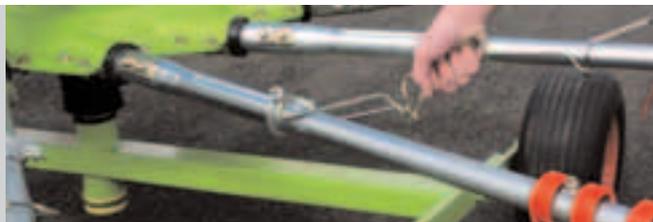
- High floatation tires keep damage to the stubble to a minimum and ensure good road travel characteristics.
- Two tire sizes are available tailored to individual field requirements.

## No need to lubricate, just drive.

- 250 hour lubrication interval on all drive shafts.
- Reliable drive train with very low maintenance requirement for a minimum of downtimes during peak harvesting periods.

## PROFIX.

- Quick-release bracket for the tine arms.
- Tine arms are wear-resistant and are positioned securely in their supports.



Despite its enormous raking width, the LINER 3000 shrinks down to just 9.8 ft (3 m) for road transport.

LINER 3000



## Unifying driver and machine.

Silage preparation is always done in a rush and this demands non-stop performance from the harvesting equipment team. Ease of control and operation plus the lack of operator stress are essential to extract the most from machines and modern control technology.



## CONTROL TERMINAL.

- Direct push-button activation of all required functions.
- Separate manual operation of tractor functions is eliminated thanks to permanent oil circulation that allows fingertip control.
- Easy to reach with its own flexible holder.
- Easy to read, illuminated display simplifies night working.

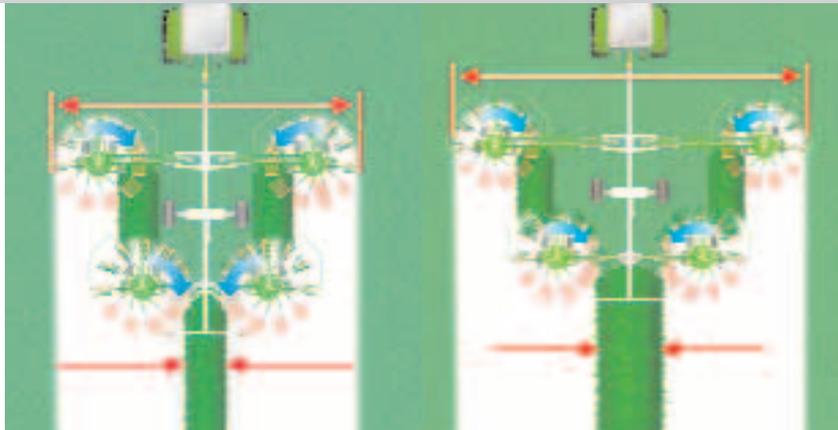
# The CONTROL TERMINAL – intelligent and convenient.

## Intelligent control.

- Functional sequences are linked to make control easier. For instance, one push of the button retracts the outriggers, raises the rotors one after another and lowers the road running gear.
- Individual settings can be programmed alongside the basic functions, such as lift height or time delay between rotors.

## Highly flexible.

With working widths of between 32.5 ft to 41 ft ( 9.90 and 12.50 m ) and swath widths of between 4.0 ft to more than 6.5 ft ( 1.20 - 2.00 m ), the LINER 3000 can be matched closely to the crop volume and any pick-ups used. The preferred swath width is set in one operation, matching the swath to the pick-up.



LINER 3000

# LINER

		LINER 350 S	LINER 470 S	LINER 470 T
Hitching/Attachment		Three-point Swivelling head	Three-point Swivelling head	Drawbar
Working width	m (DIN)	11.5 (3.5)	15 (4.6)	15 (4.6)
Swath width	in. (m)	–	–	–
Transport width	in. (m)	9.8 (2.98)	–	–
with tine arms removed	in. (m)	6.5 (2.0)	7.2 (2.2)	7.2 (2.2)
Transport height	in. (m)	–	–	–
with tine arms removed	in. (m)	–	–	–
Parking length (transport position)	in. (m)	–	–	–
Power requirement	from kW/hp	26/35	44/60	26/35
Rotors	Quantity	1	1	1
Tine arms per rotor	Quantity	11	13	13
Tine arms, removable		•	•	•
Dual tines per arm	Quantity	3	4	4
Tine overrun	in. (mm)	2.75 (70)	2.75 (70)	2.75 (70)
Tine length	in. (mm)	22 (560)	22 (560)	22 (560)
Swath former		guard	guard	guard
Swath deposits		left	left	left
PTO speed	rpm	540	540	540
Contour system		•	•	•
Tyres				
Contour system	16x6.50-8 10 PR	4	–	–
	18x8.50-8 6 PR	–	4	4
Main running guide	10.00/75-15.3 10 PR	–	–	–
	15.0/55-17	–	–	–
	500/55-20 12 PR	–	–	–
Weight	approx. lbs (kg)	1,038 (471)	1,414 (640)	1,500 (680)

- Standard
- Optional
- \* TWIN function (optional)

CLAAS continually strives to adapt its products to meet practical requirements. Thus, all products are subject to changes. All descriptions and specifications in this brochure should be considered as approximate and may include optional equipment that is not part of the standard specifications. This brochure is designed for worldwide use. Please refer to your nearest CLAAS dealer and their price list for local specification details. Some protective panels may have been removed for photographic purposes in order to present the function clearly. Never remove these protective panels yourself, to avoid any risk of danger. In this respect, please refer to the relevant instructions in the operator's manual.

<b>LINER 650 TWIN</b>	<b>LINER 1550 TWIN PROFIL</b>	<b>LINER 3000</b>
Drawbar	Lower link	Lower link
11.5 - 20.7 (3.5 – 6.3)	22.5/24.5 (6.8/7.5)	32.5 - 41 (9.9 – 12.5)
–	–	1.20 – 2.30
10 (3.0)	10 (3.0)	10 (3.0)
7.2 (2.2)	–	–
–	13.1 (4.0)	–
–	10.3 (3.15)	12.8 (3.9)
26.2 (8.0)	24.6 (7.5)	26.2 (8.0)
37/50	45/60	55/70
2	2	4
11	11	11
•	•	•
4	4	4
2.75 (70)	0.4 (10)	0.4 (10)
22 (560)	22 (560)	22 (560)
guard	guard	guard
left	left	centre
540	540	540
•	4-wheel running gear	4-wheel running gear
rear cardan	cardan suspension	cardan suspension
–	2 x 4	4 x 4
2 x 4	–	–
–	2	–
–	–	2
–	–	o
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