Tine stubble cultivator

HIGHLANDER









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HIGHLANDER

Tine stubble cultivator

THE MACHINE DESIGNED TO PERFORM IN YOUR FIELDS

WITH ITS 4 ROWS OF NSM TINES, PRECISE GROUND TRACKING, AND NUMEROUS FEATURES, THE HIGHLANDER STUBBLE CULTIVATOR CULTIVATES, MIXES, AND PREPARES SOILS BETWEEN 3 AND 20 CM DEEP IN THE LEAST POSSIBLE NUMBER OF PASSAGES. IT OFFERS AN AGILE, HIGH-PERFORMANCE AND ECONOMIC SOLUTION TO SUPPORT FARMERS ALL YEAR ROUND.



THE HIGHLANDER MANAGES INTENSIVE MIXING by means of its 4 rows of NSM tines and 70 cm under-frame clearance, ensuring continuous soil flow without clumping. This architecture optimises the spread of plant matter, which accelerates its mineralisation and improves soil bearing capacity.

Fitted with specialised wings, THE HIGHLANDER PERFORMS PRECISE HORIZONTAL SHALLOW STUBBLE CULTIVATION at depths starting from 3 cm, with an effective working width enhanced by a 20.7 cm tine spacing. This shallow stubble cultivation action ensures uniform root severance, limiting competition for water and promoting successful stale seedbed preparation.

With its adjustable working depth of 3 to 20 cm and wide range of implement options, the HIGHLANDER offers precise spring seedbed preparation, effective stubble cultivation between crops, and intensive residue mixing in the autumn, SECURING EVERY STAGE OF THE CROPPING CYCLE.

HIGHLANDER 6000 | 7500

ONE MACHINE, MANY CONFIGURATIONS

Owing to its versatile settings, the HIGHLANDER adapts closely to the soil, each season and each agricultural aim. From ultra-shallow stubble cultivation to intensive mixing, each module combines to meet specific operator needs. This modularity allows for a reduced number of passages, to optimise working time and ensure reliable yield in the field.



Front implement

The HIGHLANDER can be fitted at the front with **pre-cutting discs** with adjustable cutting pressure.

This implement is ideal in cases of thick vegetation as it allows for effective cutting of the plant stems.

This pre-cutting facilitates the work of the tines, ensuring optimal soil preparation.

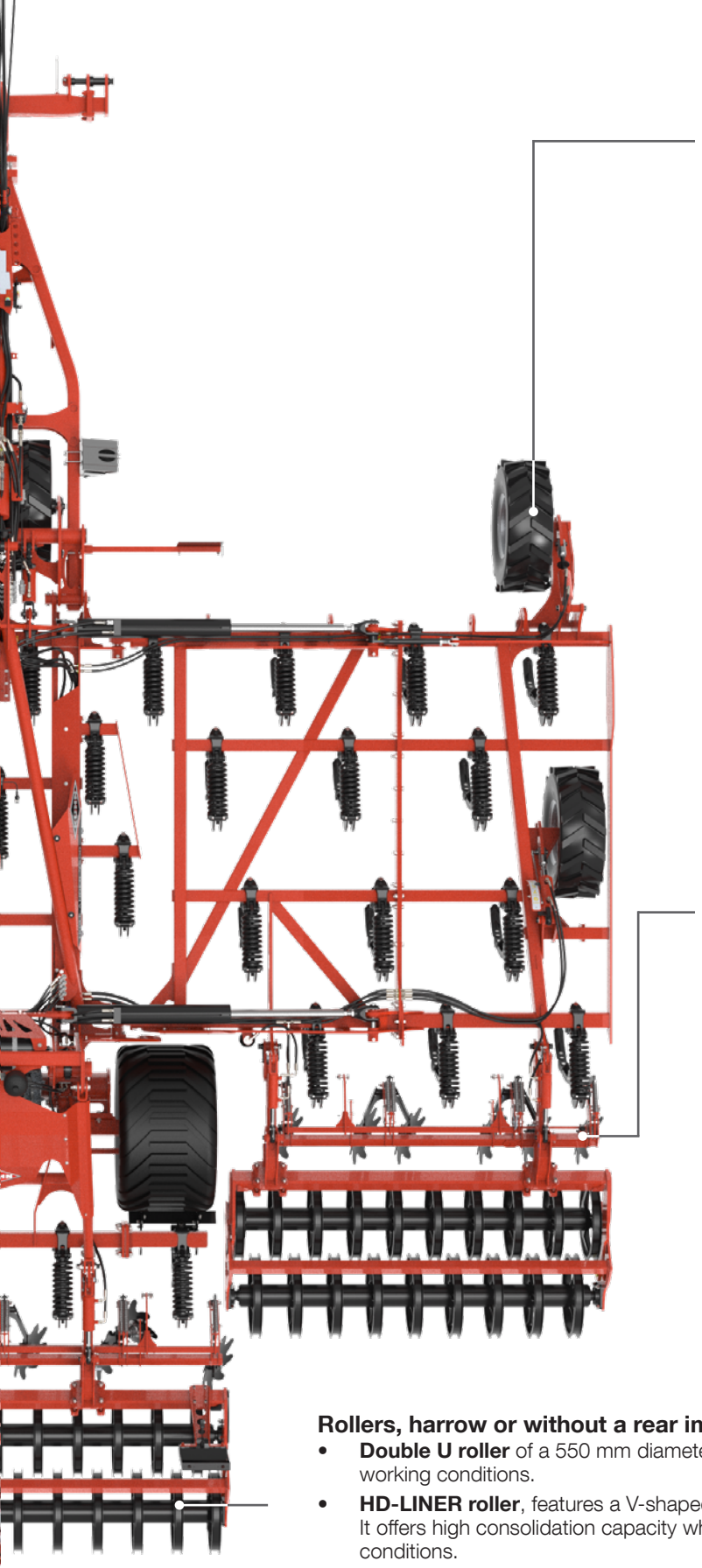


4 rows of tines

- The machine is fitted with four rows of tines, with **Maintenance-free Non-Stop Mechanical safety systems**, capable of withstanding a 350 kg force at the tip.
- The tine has **two working positions,** making it possible to work at greater depth in compacted areas. It is fitted with a safety screw in the event of an excessive load, to ensure **safe, efficient use**.
- The under-frame clearance is 70 cm, while the tine spacing is 20.7 cm.

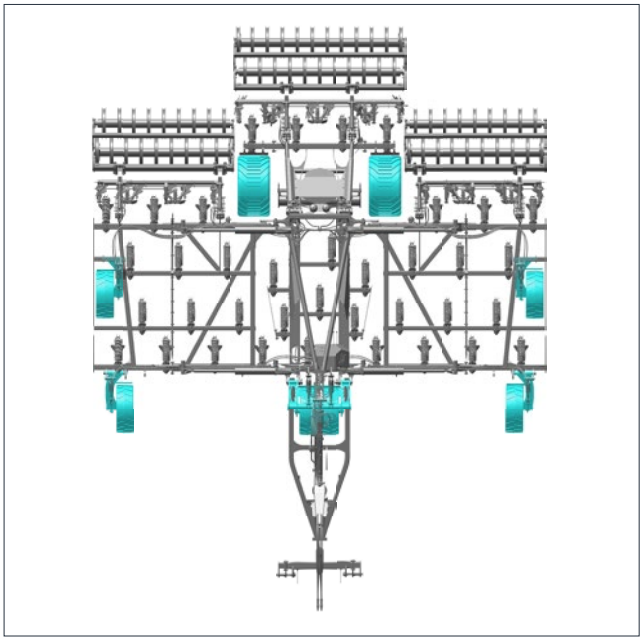


50 mm DURAKARB carbide | *65 mm forged, as standard* | *65/35 mm DURAKARB carbide* | *80 mm forged* | *80/50 mm DURAKARB carbide* | *250 mm standard or carbide wings*



Passages of the soil with the wheels

The HIGHLANDER can be equipped with up to 8 depth-control wheels - including on the floating drawbar and floating extensions - ensuring excellent ground contour tracking across both width and length.
The result: consistent, uniform working depth, even at shallow depth.



Levelling

- Levelling is optimised using **centralised settings to control depth**, accessible at the side.
- The **levelling blades** are ideal for light- to medium-weight soils and are equipped with independent wearing parts, ensuring increased durability.
- For medium- to heavy-weight soils, the **levelling discs** are optimally adapted, even in the presence of vegetation.





Rollers, harrow or without a rear implement

- **Double U roller** of a 550 mm diameter, and adjustable ground pressure which can adapt to different working conditions.
- **HD-LINER roller**, features a V-shaped section and is also fitted with adjustable ground pressure. It offers high consolidation capacity while facilitating water infiltration and can also operate in wet conditions.
- The roller can also be replaced with a **triple harrow**, featuring mechanical or hydraulic angle adjustment.
- For work done, the HIGHLANDER can be used **without a roller**, for continuing work in wetter conditions.







HIGHLANDER

FROM SPRING TO WINTER, ALWAYS EFFICIENT

With its comprehensive modular architecture design, the HIGHLANDER stands out for its ability to operate effectively at every stage of soil cultivation, throughout the year. From preparing the soil in spring to rapid stubble cultivation between crops, right up to structural mixing of residue in autumn, it covers many different tasks at depths ranging from 3 cm to 20 cm. The settings examples displayed below illustrate this versatility within farming practices.

SPRING



Open up and warm the soil

12 to 15 cm

Soil airing / ventilation

Recommended implements:

- 65/35 tips
- Straight or curved deflectors
- Double U roller (moderate reconsolidation)

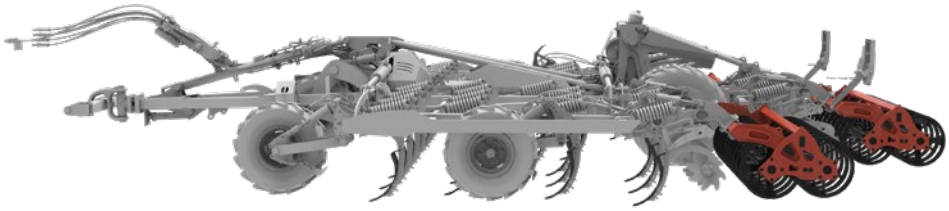
Prepare the seedbed

10 cm

Refine and level the soil

Recommended implements:

- 65/35 tips
- Curved deflectors
- Double U roller (high reconsolidation)



SUMMER



Stubble cultivation

5 to 12 cm

Manage residue and prepare a stale seedbed

Recommended implements:

- Pre-cutting discs *(depending on the weeds present)*
- 65/35 tips and wings
- Straight deflectors
- Triple harrow

Seeding of cover crops

5 to 10 cm (depending on the type of seed sown)

Work the soil and sow in a single pass

Recommended implements:

- 65/35 tips
- Straight deflectors
- Double U roller (low reconsolidation)
- SH 600 seed drill or front hopper kit







AUTUMN



Structure the soil

20 cm

Improve the physical condition of the soil

Recommended implements:

- Tips 50
- Straight deflectors
- Double U roller or HD-Liner (moderate reconsolidation)

Bury crop residue

10 to 20 cm (depending on the residue volume)

Bury and mix the residue with the soil

Recommended implements:

- Pre-cutting discs
- 65/35 tips
- Straight deflectors
- Triple harrow or Double U roller (moderate reconsolidation)





WINTER



Open the soil

10 to 20 cm

Open the soil and encourage the impact of frost

Recommended implements:

- Tips 50
- Curved deflectors
- Triple harrow or implement-free

Destroy the plant cover

8 to 12 cm

Destroy the plant cover and mix it with the soil to accelerate its decomposition

Recommended implements:

- Pre-cutting discs
- 65/35 tips (+ wings if needed)
- Straight deflectors
- Triple harrow or Double U roller





HIGHLANDER

INTENSIVE MIXING

The HIGHLANDER creates an intensive, structural mix, using its four rows of tines, its specially designed tips and generous under-frame clearance. It effectively restructures compacted areas and provides a loose soil base, ideal for root system development. Its mulching capacities strengthened by its pre-cutting discs ensure rapid fragmentation of the straw in order to accelerate its decomposition.





Pre-cutting discs for a uniform mix
Pre-cutting discs play a key role in the success of the mix by effectively preparing the residue before the tines pass over. This prior cutting improves the spread of residue over the worked area, it reduces the formation of clumps and ensures a smooth mix over the entire area for rapid, uniform decomposition.



Five types of forged points and DURAKARB carbide points
- **Forged points** facilitate soil movement and loosening, initiating the mixing of residue.
- **Carbide points** ensure uniform and long-lasting incorporation of organic matter, owing to their durability.



High-volume clearing to ensure a high-quality mix
The HIGHLANDER features a 70 cm under-frame clearance and a 20.7 cm tine spacing, designed to promote continuous flow of soil and residue. This open design limits the accumulation of organic matter and allows the residue to remain in a state of movement until it is uniformly spread over the worked area.

HIHLANDER

UNIFORM STUBBLE CULTIVATION

Thanks to the combination of specialised tines and wings, the HIGHLANDER performs precise, uniform shallow stubble cultivation starting at a depth of 3 cm, severing weed root systems to effectively and sustainably inhibit regrowth and reduce competition for water and nutrients. The consistency of depth, managed by gauge wheels and a floating ground-tracking system, ensures uniform shallow stubble cultivation, even at high speeds or in changing conditions, making the HIGHLANDER an effective implement for mechanical weed control and long-term cover crop management.





Wings for effective, accurate stubble cultivation
The HIGHLANDER's wings enable the operator to achieve clean, uniform, and effective shallow stubble cultivation from a depth of 3 cm, quickly obstructing weed regrowth. By severing root systems across the full width, they produce a clean, managed seedbed which reduces reliance on herbicides.
By producing a uniform, fine soil, the wings facilitate successful stale seedbed preparation and improve the establishment of cover crops.



The triple harrow, vital for managing weeds and the quality of the finish. Positioned at the rear, it retains the residue collected by the blades, preventing it from being transplanted back into the soil and ensuring effective surface drying. The soil remains clean and uniform, promoting the success of seed bed preparation.
Owing to its angle adjustment, the triple harrow adapts to the environmental conditions and the operator's aims.

HIGHLANDER

THE NSM TINE: AN ESSENTIAL PART

The NSM (Non-Stop Mechanical) tine forms the cornerstone of the HIGHLANDER's performance. Designed to withstand up to 350 kg of force at the tip, it ensures consistent penetration and optimal soil grip, even in demanding conditions. Its maintenance-free, mechanical safety system ensures instant reaction to obstacles, while protecting the chassis and ensuring continuity of work.



With 350 kg of pressure at the tip, the NSM tine ensures uninterrupted penetration, even in challenging soils. The 3D spring-tine safety system offers a vertical clearance of 18 cm and a side clearance of 10 cm, restricting stone kick-up while keeping the tine firmly in the ground. The tine is fitted with a shear bolt to provide optimal protection of the chassis for optimal safety under extreme conditions. This design ensures a stable, precise position, which is vital for consistent, uniform cultivation.



PATENTED

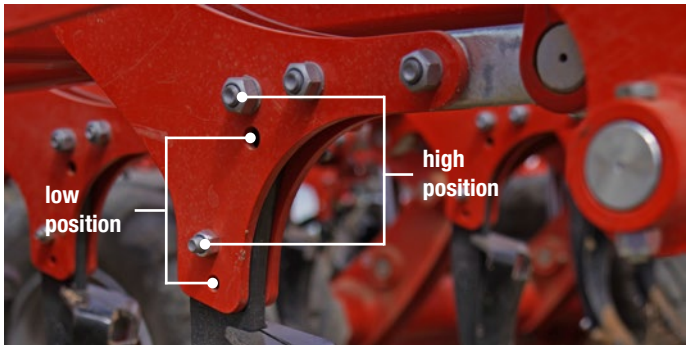
Reliable and maintenance-free tine safety

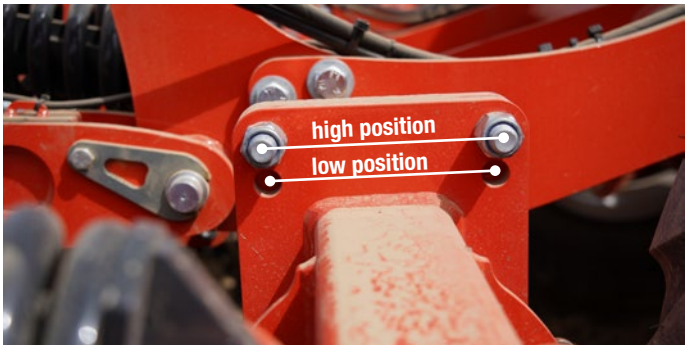
With the HIGHLANDER, KUHN is offering a patented solution to counter the constraints of traditional spring-tine safety systems. Thanks to the spring's offset positioning, the tine's behaviour on impact is no longer unpredictable: it is now fully controlled.
This control channels forces into a bearing-based system rather than a friction-based one, significantly reducing component wear. Working depth precision - even in the top few centimetres of soil - is significantly improved.
For the operator, this means greater reliability in real-world conditions, less maintenance, and a significantly longer service life, ensuring high-performance, consistent soil cultivation.

Deflectors - to adjust the intensity of the mix

The HIGHLANDER offers two types of deflectors, straight or V-shaped, so the operator can adjust the behaviour of the soil and residue depending on the working aim. The V-shaped deflector promotes wide, progressive spread, making it ideal for consistent, uniform spread. Conversely, the right-hand deflector concentrates the flow more intensely to boost mixing action and enhance the incorporation of residue.
This option allows the operator to quickly adjust the aggressiveness of the work, and achieve the desired level of mixing, depending on the soil, residue, and field conditions.







Two tine working positions

The NSM tine has two adjustment positions, so that the operator can adapt depth and aggressiveness to farming aims:

- In the low position, 3 cm of additional penetration is gained, ideal to handle compacted areas or to facilitate the passing of the tractor wheels;
- In the high position, more shallow, economical operations can be performed.

Adjusting the position of the tines behind the gauge wheels

The HIGHLANDER allows for adjustment of the position of the tines located behind the gauge wheels to compensate for the soil compaction caused by the passing of the tractor and the machine. By setting the tine to the high position, work can be conducted 3 cm deeper in these specific areas.
This targeted adjustment ensures consistent depth across the entire working width, preserving soil structure, and delivering an optimal, uniform result, the need for a repeat passage over of the machine.

FLEXIBILITY TO BOOST PROFITABILITY

Each farming operation, each soil or task have their own specific requirements. That's why the HIGHLANDER has been designed as a fully-adjustable machine, capable of being adapted to closely align with your farming aims, and the real working conditions encountered.

FRONT IMPLEMENT: PRE-CUTTING DISCS

Positioned towards the front, the pre-cutting discs manage effective cutting of the vegetation before the tines passage. This eases penetration, standardises work flow and limits the formation of clumps. The adjustable downforce allows their effectiveness to be closely adapted to actual soil conditions and the density of residue. This prior soil preparation ensures seamless, uniform, clump-free work: a key condition to successful stubble cultivation and mixing.



LEVELLING IMPLEMENT





Levelling blades
The levelling blades are especially designed for light- and medium-weight soils. They ensure an even spread of the soil, they break up clumps and improve the final flatness of the land. Equipped with independent wearing parts, they are more durable and easier to maintain.
Centralised, section-by-section adjustment - also accessible from the side - allows for configuration changes to be made quickly, right out in the field.

Levelling discs
For medium- to heavy-weight soils or where vegetation is present, levelling discs can be fitted to the HIGHLANDER. Their design ensures effective levelling, even in challenging conditions, while excellent soil and residue flow is maintained.
They produce a uniform, even surface, preparing the ground for subsequent pass overs or operations initiated in spring.

REAR EQUIPMENT

The HIGHLANDER's rear equipment allows the operator to accurately adjust the soil finish to meet farming aims, climate conditions and the type of work conducted. Depending on the configuration chosen - DOUBLE U ROLLER or HD-LINER, triple harrow or the absence of rear implements - the HIGHLANDER offers full control over the soil's final structure.









DOUBLE U and HD-LINER rollers
The versatile DOUBLE U roller ensures excellent soil flow, minimises clumping, and ensures uniform reconsolidation without smearing, even in stony conditions.
The HD-LINER, with its V-shaped section and 600 mm diameter, offers high consolidation capacity, while improving water infiltration and maintaining effective performance, even in wet conditions.

Triple harrow
Positioned at the rear of the machine, it holds the soil and the residue collected by the tines or the wings, limiting their transplanting and promoting surface drying. The operator can easily use its angle adjustment - which is hydraulic or mechanical, depending on the configuration - to easily adjust the harrow's level of aggressiveness based on actual soil conditions and the desired outcome.

Work without rollers
The HIGHLANDER can be used without the rear roller to adapt to wet conditions or work done in autumn, leaving the soil more exposed, with better drainage. This configuration limits the risk of smearing and soil compaction.
Owing to the precise depth control managed by the gauge wheels, the quality of work remains consistent and uniform, even without additional consolidation.

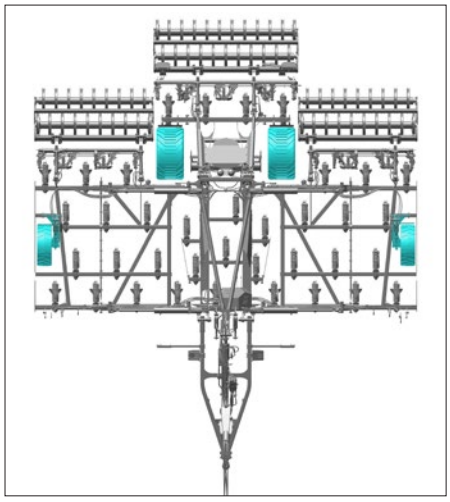
HIGHLANDER

DEPTH CONTROL: THE HALLMARK OF PERFORMANCE AND CONSISTENCY

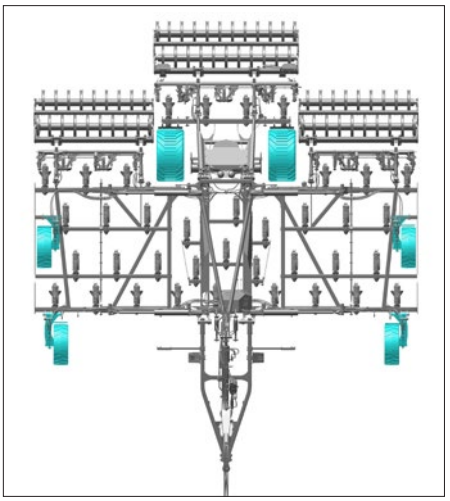
The quality of soil cultivation is based primarily on depth control, in particular during stubble cultivation and ultra-shallow work. The HIGHLANDER has been designed to offer sophisticated ground contour tracking, ensuring consistent working depth across the entire width of the implement, even at shallow depths or high speeds. This stability is vital for achieving a uniform result, reducing the number of pass overs required and securing each passage.



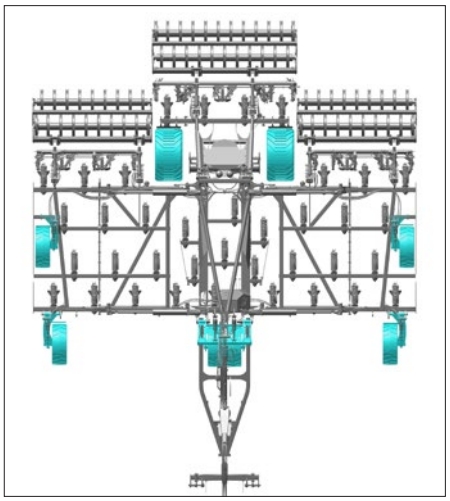
4 wheels *(only in 6 metres)*



6 wheels



8 wheels



Gauge wheels allow the ground contour tracking to be adapted to specific terrain conditions and operational aims

With 8 gauge wheels, the machine delivers optimal two-way ground contour tracking - ideal for shallow scalping and stubble cultivation on hilly terrain, and ensuring consistent working depth across the entire width.

The 6-gauge-wheel configuration is particularly well adapted to gently rolling terrain, providing effective contour tracking for the wing sections.

Finally, the 4-gauge-wheel configuration (6000 model only) is the ideal setting for flat terrain, offering a simple, robust configuration for stubble cultivation tasks.

Selecting the right configuration ensures consistent work quality and minimises depth variations.

Continuous hydraulic depth control from the cab allows the operator to make quick, precise adjustments without leaving the tractor.

Drawbar and extensions: stability and freedom of movement

The HIGHLANDER offers several different types of drawbar - fixed or floating - connected to floating extensions depending on the selected configuration. The floating drawbar improves ground contour tracking and distributes loads evenly, while the fixed drawbar offers a sturdy, efficient solution for versatile use, providing better weight transfer to facilitate towing.
The floating extensions play an active role in lateral ground tracking, enabling them to adapt to changes in terrain without affecting the working depth. STEADY CONTROL ensures the floating extensions' close and responsive soil tracking, ensuring a uniform working depth across the HIGHLANDER'S full width.

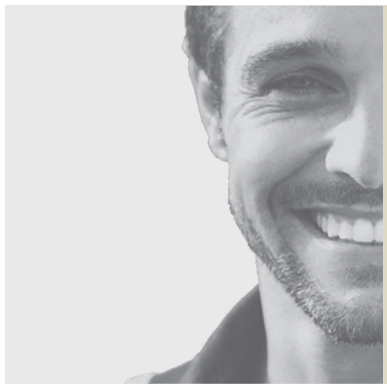






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Parts designed to stand the test of time. KUHN's foundries and forge, together with state-of-the-art production facilities, enable the manufacture of spare parts built to stand the test of time. You can really rely on our expertise and our genuine parts. Thanks to our KUHN PARTS warehouses, farmers benefit from our customer support and logistics services, which ensure fast and reliable repair solutions in collaboration with your nearest KUHN Authorised Partner.



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KUHN i-Tech - For ever faster repairs!
KUHN Finance - Invest wisely!

*Not all services are available in all countries. **except from 1 January^{2024} 1 May and from 25 December

HIGHLANDER 6000 | 7500



Compatible with 180 to 450 hp tractors, the HIGHLANDER 6000 and 7500 are designed for precise work conducted at depths of 3 to 20 cm, with working widths of 6 m and 7.6 m suited to high work loads. Its robust design - combined with maintenance-free NSM tines, hydraulic depth adjustment, and precise depth control via gauge wheels - ensures consistent performance in all conditions.
It is a comprehensive, high-performance foundation designed to deliver efficiency, reliability, and ease of use right from the start.

180 - 450 hp

6 / 7.6 metres

6 to 10 ha/h

Technical specifications

	6000	7500
Min. tractor power (kW/hp)	132/180	170/230
Max. tractor power (kW/hp)	264/360	330/450
Working width (m)	6	7.6
Transport width (m)	3	
Number of tines	29	37
Working depth (cm)	3 to 20 cm	
Working depth adjustment	Standard hydraulic system	
Tine deflector	Single or double deflector	
Couplings	K80, 3/4/4N cross-member, ball hitch diam. 42/51/71, torus diam. 46/58, mechanical or hydraulic parking stands	
Available roller types	Roller-free, HD-LINER, Double U, triple harrow	
Approx. weight (kg) (NSM safety system with Double U roller)	7,600	8,700



Available equipment

Couplings	Torus diam. 46/58 · Ball hitch diam. 42/51/71 · K80 · 3/4N/4 cross-member · Mechanical parking stand · Hydraulic parking stand
Front-end implements	Opening discs
Tines	NSM tine
Tine implement	V deflector · Right deflector · 50 mm carbide tip · 65 mm tip · 65/35 mm carbide tip · 80 mm tip · 80/50 mm carbide tip · 250 mm wing · Carbide wing 250 mm
Levelling modules	Levelling blades · Levelling discs · Rear harrow
Rollers	Roller-free · HD-LINER · DOUBLE U · Triple harrow
Working depth adjustment	Mechanical adjustment · Continuous hydraulic adjustment
Gauge wheels	4 gauge wheels (only 6000) · 6 gauge wheels · 8 gauge wheels
Ground tracking	Drawbar and fixed extensions (4 or 6 gauge wheels) · Floating extensions (6 gauge wheels) · Drawbar and floating extensions (8 gauge wheels)
Seeding / fertilisation kit	SH 600 seeding behind the tine · TF kit seeding behind the tine

HIGHLANDER

SOIL CULTIVATION: A KEY AGRICULTURAL PERFORMANCE LEVER

Within the current landscape of reduced inputs, intensified farming practices, and climate change, soil cultivation serves as a key lever for managing the fertility and structure of shallow soil layers. Stubble cultivation and soil preparation allow us to manage organic matter flows, control weed infestation, and optimise the physicochemical conditions to promote crop establishment. Mastering these aspects directly determines the effectiveness of the production system.





Stubble cultivation: a key step following harvest

Surface-level (3 to 10 cm) stubble cultivation is designed to sever the root systems of weeds and stimulate germination so that the weeds can be eradicated during subsequent passages (stale seedbed technique). This practice makes it possible to reduce weed pressure while limiting the use of herbicides.

At the same time, stubble cultivation initiates the process of fragmenting the residue and bringing it into contact with the soil, thereby promoting its decomposition. The increase in soil-residue contact points accelerates nitrogen and carbon mineralisation processes, contributing to the nutrition of subsequent crops.

Mixing and incorporation: to stimulate soil life

Intermediate cultivation (5 to 20 cm) allows for the uniform incorporation of residue and amendments into the worked area. This mixture enhances the distribution of organic matter, promotes microbial activity, and stimulates mineralisation processes.

Structurally, this action makes it possible to restructure compacted soil areas, increase porosity, and improve water and air circulation conditions. It also helps to limit soil crusting and erosion, while promoting deep, uniform root development.

Why choose a tined implement?

1. **Effective shallow stubble cultivation**
   Clean severing of root systems for long-term weed control.
2. **Less propagation by cuttings**
   Meticulous vertical work, ideal for managing perennials.
3. **Gradual and uniform mixing**
   Optimal spread of residue to stimulate soil life.
4. **Respected structure**
   Work without excessive disruption of the soil layers
5. **Maximum versatility**
   From 3 to 20 cm: stubble cultivation, stale seedbed preparation, incorporation, and seedbed preparation







Soil preparation: seedbed quality

Soil preparation aims to achieve a uniform soil profile characterised by:
- a fine surface structure
- even levelling
- good capillary continuity

These conditions are essential to ensure optimal soil-to-seed contact, rapid and uniform germination, and secure crop establishment. Soil cultivation also allows the surface layer to warm up more quickly in the spring, accelerating the start of plant growth.

Direct benefits for the farm

Controlling stubble cultivation and soil preparation means:
- Reducing weed pressure without excessive dependence on herbicides
- Optimising the management of residue and improving soil fertility
- Promoting deep, evenly-spaced root establishment
- Securing crop establishment
- Increasing efficiency and profitability at rotation level

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Discover the KUHN ranges of soil preparation equipment



1. PROLANDER vibrating tine cultivator - 2. OPTIMER independent disc stubble cultivator - 3. CULTIMER tine stubble cultivator - 4. HIGHLANDER tine stubble cultivator - 5. PERFORMER tine/disc stubble cultivator - 6. STRIGER 100 strip till implement

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*Pre-Delivery Procedures

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