

Semi-mounted ploughs

# MANAGER CHALLENGER



[www.kuhn.com](http://www.kuhn.com)



be strong, **be KUHN**







MANAGER CHALLENGER

# The KUHN plough



The future of farming lies in competitiveness and profitability.

The plough concept with its advanced features will contribute to a quick return on your investment.

The KUHN plough will allow you to:

- Maintain a high quality soil structure with an efficient burial of organic matter and an even aggregate spread throughout the soil profile - crop yields will be increased.
- Have at your disposal a wide range of working width settings and an excellent overall manoeuvrability - "in field" costs will be reduced.
- Benefit from a number of technological innovations such as the variable width, the plough structure protection systems (Hydraulic non-stop or traction bolt) - the working life of the plough is increased and maintenance costs reduced.
- Profit from a renowned reliability and long working life allowing you to work throughout the day without interruption - your plough will also keep a high second-hand value.

Opt for a KUHN plough - because obtaining high yields and optimising financial results all starts with high quality ploughing.

HUHN offers solutions for ploughing while meeting your requirements with regards to:







#### HEADSTOCK WITH HEAVY DUTY ARTICULATION



Quick-hitch cross-shaft positioned low on the machine for the best possible weight distribution and maximum traction in difficult conditions.

#### HYDRAULIC SEQUENCING (PATENTED) FOR EASE OF USE DURING MANOEUVRES



The same lever controls both the lifting out of work and the turnover of the plough in one combined automatic operation greatly simplifying headland manoeuvres and reducing driver fatigue.

### MANAGER

# THE HEART OF THE SEMI-MOUNTED RANGE!

With a wide choice of bodies and safety systems, the Manager semi-mounted plough range is suited for most medium range horsepower tractors and working conditions. Its easy manoeuvrability enables even the most difficult fields to be ploughed without reducing working rates. Furthermore, with this semi-mounted plough, you can use the same power tractor with more bodies than if you were using a mounted plough.

#### SHARP TURNING ANGLE OF 110° FOR EXCELLENT MANOEUVRABILITY

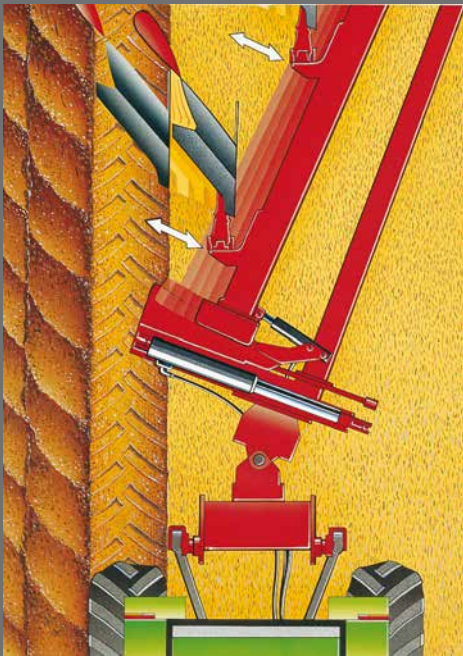
The undercarriage wheels can be directed left or right according to the direction required by slightly turning the plough to one side or the other with the turnover mechanism.

The centre mounted wheels are closer to the tractor compared to a rear mounted single wheel system allowing a more in-line finish to the ploughing, a better turning angle and subsequent shorter headlands.

The specially designed headstock articulation joint gives an impressive 110° turning angle.







### BEAM ARTICULATION (PATENTED)

The beam articulation allows the plough to follow undulating terrain giving a constant ploughing depth along the length of the plough. When coming out of work, whilst the front bodies are lifted out of the ground the rear bodies remain at a constant working depth giving reduced headlands and a neater finish to the end of the bout. The articulation locks automatically when coming out of work (and remains locked during all transport manoeuvres). The articulation is unlocked as soon as the plough is put back into work.

### LARGE HYDRAULIC OFFSETTING ADJUSTMENT

Large adjustments can be made to the plough offsetting (its angle in relation to the tractor) from the tractor seat by simple action on one of the spool levers. This allows for easy adaptation to all possible tractor inter-wheel distances and also permits a complete cancellation of the effect of the first body for particular circumstances e.g. finishing a field, going round obstacles etc.

### THE TWO WHEEL UNDERCARRIAGE

#### Assured stability during manoeuvres

The undercarriage allows a substantial reduction in the strains put upon the tractor arms during turnover. This engineering concept allows a lowering of the centre of gravity. Turnover is carried out by two direct acting horizontal rams with no complex mechanical linkages. This very simple turnover system has a minimum of moving parts reducing both the risks of wear and of any possible maintenance requirements. The system comes complete with a hydraulic levelling lock (patented).

#### Excellent stability in work

The two wheel undercarriage ensures good overall plough stability. One wheel running in the furrow also gives excellent sideways stability especially when working on slopes.





# A SEMI-MOUNTED PLOUGH WITH HYDRAULIC VARIABLE WIDTH FOR MAXIMUM VERSATILITY

The Vari-Manager meets the demands of today's professionals.

- Robust and durable.
  - Total protection of the plough structure with the non-stop hydraulic auto-reset system, shear bolt protected skimmers and transport suspension.
  - A high level of versatility for increased work rates, easy adjustments and a hydraulic variable width system for quick and easy adaptation to all working conditions.
- A variable width mechanism fully integrated into the plough beam for maximum protection and long life.



## ONE PIECE HEADSTOCK

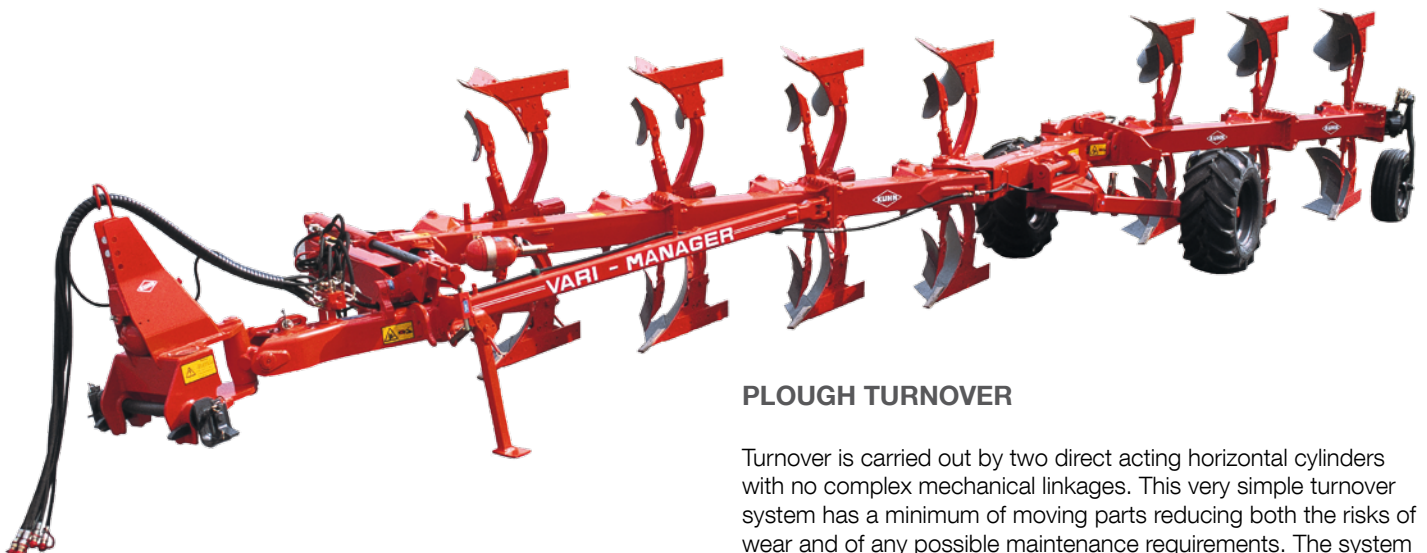
A quick-hitch cross-shaft is positioned low on the machine for the best possible weight distribution and maximum traction in difficult conditions.

The cross-shaft features "U-shaped supports at each end for extra strength. The heavy-duty headstock allows the use of tractors up to 240 hp (176 kW).

## HYDRAULIC SEQUENCING (PATENTED)



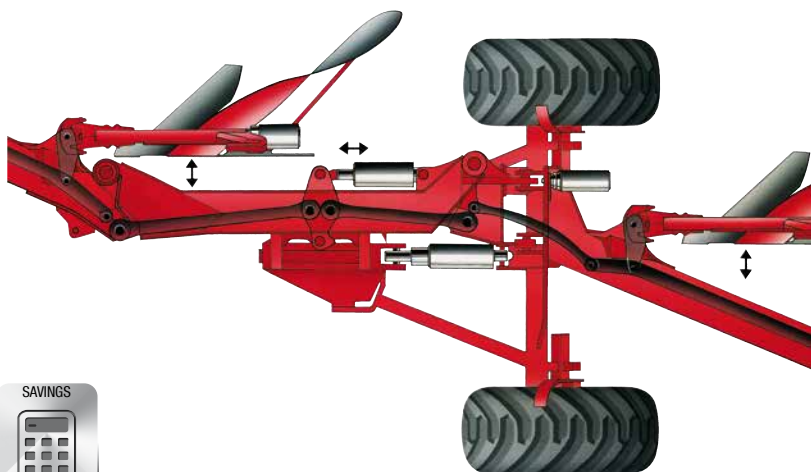
In the tractor cab the same lever controls both the lifting out of work and turnover of the plough in one combined automatic operation greatly simplifying headland manoeuvres and reducing driver fatigue



## PLOUGH TURNOVER

Turnover is carried out by two direct acting horizontal cylinders with no complex mechanical linkages. This very simple turnover system has a minimum of moving parts reducing both the risks of wear and of any possible maintenance requirements. The system comes complete with a hydraulic levelling lock (patented).





**ALL MOVING PARTS FULLY INTEGRATED INTO THE PLOUGH BEAM**

The whole linkage mechanism responsible for the variable width changes is housed inside the plough beam. All links and moving joints are in this way fully protected from abrasive agents (dust, corrosion) as well as from any possible impact damage. This exclusive KUHN feature ensures a long trouble free working life. All variable width linkages and articulation points are heavy duty for an exceptionally strong overall construction. All moving joints are fitted with heavy duty bushes.



**ADVANTAGES OF THE VARIABLE WIDTH SYSTEM**



- To adapt quickly to available traction.
- To adapt to different soil types, ground relief and field size whilst maintaining a high work rate.
- To alternate the plough profile summer and winter.
- To cope with large amounts of trash.
- To neatly finish up to the field border.
- To avoid obstacles and tidy the furrow.





# KUHN'S SOLUTION FOR HIGH HORSEPOWER TRACTOR !

The Challenger range is without doubt the plough for high horsepower tractors and extremely difficult working conditions.

Its number of bodies ensure that the highest work rates are achieved.

The Challenger's 220 mm section beam ensures robustness during work and combined with its safety system (traction bolt or Non Stop Security) a long life.

The beam's articulation and the plough's transport suspension gives you a more sensitive reaction to ground and road conditions during use.



CHALLENGER 12 T on-land



## LARGE OFFSETTING ADJUSTMENT

Large adjustments can be made to the plough offsetting (its angle in relation to the tractor) from the tractor seat by simple action on one of the spool levers. This allows for easy adaptation to all possible tractor inter-wheel distances and also permits a complete cancellation of the effect of the first body for particular circumstances e.g. finishing a field, going round obstacles etc.







### MULTIPLE WORKING WIDTHS 14", 16" AND 18"

Whether a traction bolt model or non-stop hydraulic (NSH), changes in working width to settings of either 14", 16" or 18" are quick and easy to carry out. The width fixing bolt is removed and the plough leg pivoted to the desired width setting. The rear beam angle is changed in the same manner and shims at the articulation joint moved to positions corresponding to the required width setting.

### PLOUGHING ON-LAND

#### Benefits

- greater distribution of weight load reducing compaction to a minimum
- no tractor wheel slip in the furrow
- reduced tyre wear on stony ground
- extra wide tyres or dual wheels can be used
- time savings - not necessary to disassemble dual wheels for ploughing.

The Challenger in its "on-land" version can be easily transformed back to an "in the furrow" plough when wet conditions reduce traction on land.

A front mounted depth wheel is essential when working in the on-land position.



CHALLENGER 12 NSH on-land



# HIGH TECHNOLOGY DESIGN AND MANUFACTURE

## HYDRAULIC BEAM ARTICULATION (PATENTED)

Fitted as standard the hydraulic articulation allows an adjustment (from the tractor cab) of the amount of articulation travel according to soil conditions.

A hydraulic accumulator integrated into the hydraulic circuit has the advantage of giving a more sensitive reaction to small ground level changes.



## TRANSPORT SUSPENSION

Fitted as standard on the Challenger, optional on the Manager.

Transport safety is maximised with 3 weight bearing points (two carriage wheels and tractor arms) giving an improved overall balance to the plough in the transport position.

There are no protruding depth wheels when on the road.

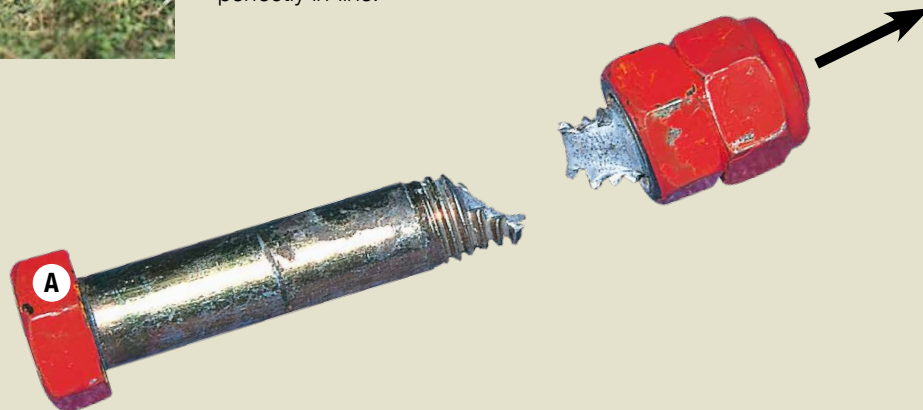
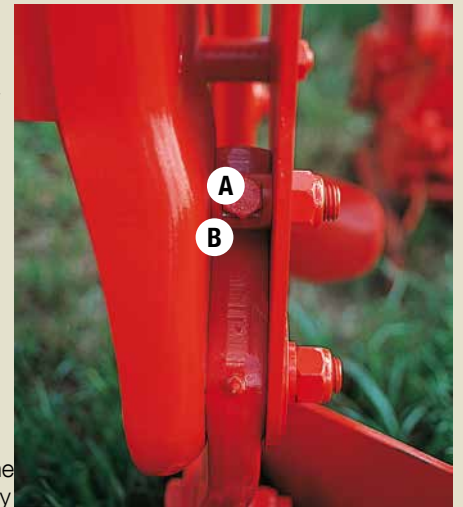
Suspension in the transport position is provided by means of an undercarriage mounted shock absorber protecting the entire length of the plough from possible transport shocks.



## TRACTION BOLT LEG PROTECTION

Abrupt breakage of the 16 mm traction bolt following a force at the plough point in excess of 3000 kg (4000 kg on Challenger) avoids risk of too frequent a breakage.

- The bolt **A** runs in the direction of the line of force contrary to the conventional scissor bolt method where the bolt runs across the line of force.
- Due to these “in-line” forces the bolt support **B** never deforms and never becomes rounded with use.
- It is impossible for the bolt to become trapped inside following a breakage. Once a force in excess of 3000 kg is met at the furrow point the bolt breaks along its length and simply falls away for quick and easy replacement.
- Even after many bolt breakages the plough bodies remain at an identical depth and perfectly in-line.





# PLOUGH LEG PROTECTION SYSTEMS FOR ALL WORKING CONDITIONS



## AUTO RESET PLOUGH LEG PROTECTION (NON-STOP HYDRAULIC)

### 1. Adapting to all working conditions

Designed for stony and / or heavy conditions the Non-Stop Hydraulic (NSH) system allows continuous ploughing with the plough legs automatically folding out of work upon hitting an obstacle and immediately returning into work again once the obstacle is passed. No need to get out of the tractor and no need to replace bolts.

The system also acts as an excellent shock absorber when working in pebbly or flinty ground absorbing all the vibration, increasing the life of the plough and increasing comfort for the driver.

**VARIBAR system** : An optional system allowing instant control from the tractor cab of the NSH pressure at the share point - either with or without Maxibar.

**MAXIBAR system** : The Maxibar option allows the pressure at the share point to be increased giving an adjustment range of 600 to 2500 kg yet conserving the suppleness of the system. The option is particularly useful in heavy compacted ground.

### 2. A unique concept

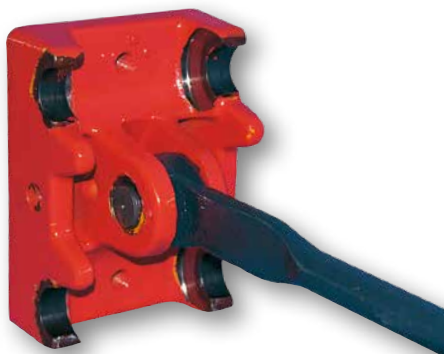
The basic concept of the hydraulic non-stop plough leg safety system gives a rapid break-away when an obstacle is met and yet an increase in pressure thereafter bringing the body quickly and firmly back into work.

### ADVANTAGES OF THE NSH SYSTEM :

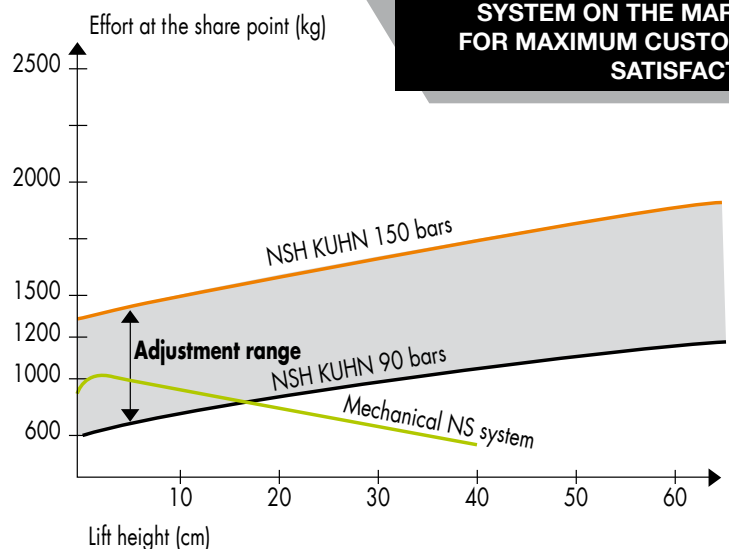
- Long life and reliability - hydraulic technology is more reliable with no wear or friction and fewer moving parts (just one articulation point and two moving parts per leg).
- Weight saving - compared to a mechanical auto reset system the NSH system is 25 kg lighter per leg.
- Ease of use - the pressure at the share point can be quickly adjusted from 600 to 1300 kg by simply inflating or deflating the accumulator mounted on the headstock.
- Excellent performance - plough leg resetting is quick and positive once the obstacle is passed with no "drumming" of the plough bodies in work.
- Compactness - the NSH tie rod is located inside the plough leg structure and the hydraulic cylinder incorporated into the leg profile for the maximum possible clearance and minimum obstruction to trash and vegetation.
- Exceptional obstacle clearance - the share point can lift 60 cm vertically out of work and 20 cm sideways.

## HEAVY DUTY PLOUGH LEG ARTICULATION AND TIE ROD

- All pressure points receive a specific heat treatment process.
- With just one articulation point all the forces put through the plough leg are transmitted in a straight line through a one piece forged and heat treated tie rod.



**KUHN HAS CHOSEN THE MOST ADVANCED AUTO-RESET SYSTEM ON THE MARKET FOR MAXIMUM CUSTOMER SATISFACTION**





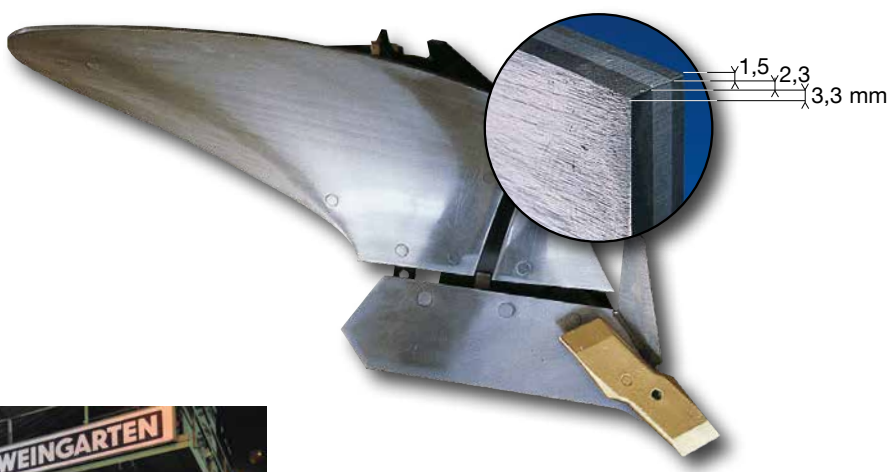


**MANAGER CHALLENGER**

# PLOUGH BODIES DESIGNED TO SAVE COSTS



## 1 - MOULDBOARDS WITH UNEQUAL LAYER TRIPLEX STEEL



### KUHN EXCLUSIVITY

- Kuhn mouldboards are made of unequal layer Triplex steel.
- The thickness of the wearing surface is increased to 3.3 mm - an exclusive feature.



## 2 - PLOUGH BODIES DESIGNED TO REDUCE WEARING COSTS



Shares are forged with a force of 5500 tonnes ensuring:

- excellent wear resistance,
- self-sharpening profile due to the grain in the steel resulting from the forging process.



### MARATHON®

Special heat treated forged steel. Reversible for maximum efficiency. Featuring a step giving better landside protection.



### OLYMPIC®

Special heat treated forged steel. Reversible for maximum efficiency. More pronounced form at wearing zones on the point for longer life and better protection of the landside. Point is self sharpening for good ground penetration at all times.



### SUPER MARATHON®

Special heat treated forged steel fitted with a tungsten carbide tip. High wear resistance. Four to five times the life of a traditional share point. A sharp working edge is maintained for excellent ground penetration.







## CLASSIC TYPE PLOUGH BODIES



### N BODY

Helicoidal cylindrical semi-digger. 15 to 30cm ploughing depth. Highly versatile body. Cylindrical at front, helicoidal at rear. Low draft, ensures a partly broken furrow, with excellent trash burial.



### L WIDE HELICAL H4 BODY (ALSO AVAILABLE IN PLASTIC)

The capacity, long helical mouldboard, Scandinavian type, giving well formed ploughing to a depth of 30cm. Especially suited to heavy and damp clays. (H6 gives ploughing depth to 35cm).



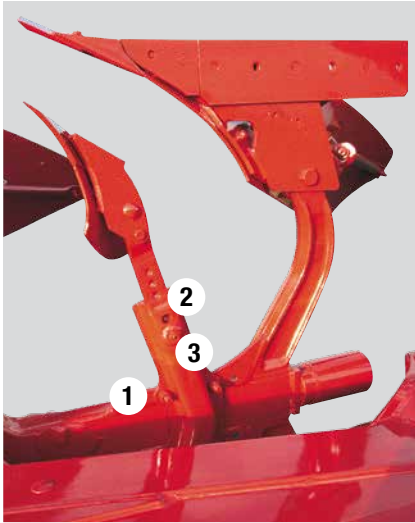
### VP SLATTED BODY

Mouldboard composed of independent and interchangeable slats. Gives a reduction of traction force, due to a lower mouldboard surface area. Easy maintenance.





# HIGH QUALITY EQUIPMENT



## INDEPENDENT, EASY TO ADJUST SKIMMERS

Each skimmer is totally independent left from right and is firmly held in a sheath like support. The skimmers are shear bolt protected and are adjustable in three directions:

- 1 Forwards and backwards - with a choice of three positions the sheath bolts to the leg support via countersunk holes to avoid any risk of free play.
- 2 Up and down - rapid and precise height adjustment (20cm of adjustment) also with countersunk holes in the skimmer leg for easy locking of the leg at the desired height.
- 3 Side to side - for correct adjustment in relation to the disc coulters (where fitted).



## DISC COULTERS

Discs have a diameter of 500mm plain or notched with the added choice on the traction bolt models of a 600mm disc. The disc serves to cut the furrow wall in front of the plough body giving a cleaner finish and improving trash incorporation.



## TRASHBOARD

For trash burial in difficult conditions where the quantity of trash may otherwise block up the skimmers.



## ALL PURPOSE ZX SKIMMER

Well adapted to ploughing on cereal or maize stubbles. ZXL : large share, ZXE : small share.



## HELICOIDAL ZH SKIMMER

Helicoidal skimmer for deep trash burial. Well adapted to grassland ploughing.



## ZRL HIGH CAPACITY SKIMMER

High capacity skimmer for trash incorporation throughout the soil profile. Excellent straw and maize trash burial.

## PRESS ARMS WITH HYDRAULIC RELEASE



Available for the complete plough range the arm allows the use of a furrow press with easy hooking up and hydraulic push-off. On the pick-up hook part of the arm where there is most risk of damage all grease nipples and hydraulic hoses are protected inside the structure of the head. The arm folds up conveniently for subsequent transport.





## MODULAR CONSTRUCTION

Each plough is made up of three basic elements :  
1 front beam, 1 rear beam and the extension/s.  
Following the assembly specifications set out in the table below the plough can be built up by yourself to correspond to the available tractor power.



### REAR DEPTH CONTROL WHEEL

Fitted with a 600 mm (MANAGER range) or 690 mm (CHALLENGER range) tyre, the rear beam mounted depth wheel pivots freely from side to side to follow all changes in working width.  
The wheel is simply designed and easy to adjust : depth adjustments by turning handle screw **C** with the possibility to set the depth independently left from right.



### DEPTH WHEEL WITH SHOCK ABSORBER

Available for the CHALLENGER series in 690 mm diameter with rubber tyre. The shock absorber not only removes the shock of the wheel falling during turnover but also ensures the wheel is in the correct rearwards inclined position as the plough is lowered back into work.



## KUHN SERVICES

# ADVANTAGES FOR OPTIMUM EQUIPMENT USE AND PROFITABILITY

### KUHN sos order

#### Express spare parts service 24/7

You urgently need spare parts? With KUHN SOS ORDER benefit from express delivery seven days a week, 365 days a year. Thus, you can minimize machine downtime considerably and increase our work output.

### KUHN protect +

#### The choice of professionals!

Benefit from 36 months in complete serenity because of KUHN's PROTECT + warranty. You can concentrate exclusively on your work and the performance of your machine. Because this is what you expect, when investing in high-tech machinery.

### KUHN i tech

#### For ever quicker repairs!

An unexpected technical problem always occurs at the wrong time. Your KUHN dealer can support you quickly and efficiently thanks to KUHN I TECH. With this 24/7 online service, a quick and exact diagnosis is possible.

### KUHN finance

#### Invest rationally!

New machine necessary, financing unsure? Modernize your equipment and develop your farm with KUHN FINANCE, in total safety and according to your needs and demands. We offer custom-made finance solutions, adapted to your requirements.




**Specifications**

**MANAGER CHALLENGER**

Model	Number of bodies	Beam configuration	Max authorized tractor power (kW/hp)	Weight (kg)	Safety	Working width (inches/cm)	Clearances (cm)		Diamond body possibility	
							under beam	point to point		
<b>MANAGER</b>	Manager C	5	3 + 2	110/149	2150	Traction bolt	14" and 16" 35 and 40	80	102	-
		6	3 + (2 + 1)	132/179	2420					
		7	(3 + 1) + (2 + 1)	154/209	2690					
		8	(3 + 1 + 1) + (2 + 1)	176/239	2960					
	Manager F10	5	3 + 2	110/149	2500	NSH auto-reset	14", 16" and 18" 35, 40 and 45	80	102	YES
		6	3 + (2 + 1)	132/179	2800					
		7	(3 + 1) + (2 + 1)	154/209	3100					
		8	(3 + 1 + 1) + (2 + 1)	176/239	3400					
	Vari-Manager	5	3 + 2	110/149	3150	NSH auto-reset	12" to 20" 30 to 50	80	102	YES
		6	3 + (2 + 1)	132/179	3500					
		7	(3 + 1) + (2 + 1)	154/209	3850					
		8	(3 + 1 + 1) + (2 + 1)	176/239	4200					
<b>CHALLENGER</b>	Challenger T	7	4 + 3	210/287	3760	Traction bolt	14", 16" and 18" 35, 40 and 45	80	102	YES
		8	(4 + 1) + 3	240/322	4048					
		9	(4 + 1) + (3 + 1)	270/369	4336					
		10	(4 + 1 + 1) + (3 + 1)	300/410	4624					
		11	(4 + 4) + 3	330/451	4912					
		12	(4 + 4) + (3 + 1)	360/492	5200					
	Challenger NSH	7	4 + 3	210/287	4110	NSH auto-reset	14", 16" and 18" 35, 40 and 45	80	102	YES
		8	(4 + 1) + 3	240/322	4428					
		9	(4 + 1) + (3 + 1)	270/369	4746					
		10	(4 + 1 + 1) + (3 + 1)	300/410	5064					
		11	(4 + 4) + 3	330/451	5382					
		12	(4 + 4) + (3 + 1)	360/492	5700					

**For more information about your nearest KUHN dealer, visit our website [www.kuhn.com](http://www.kuhn.com)**

 Visit us on our YouTube channels.

 <a href="http://www.kuhn.com">www.kuhn.com</a>	Your KUHN dealer
---	------------------

**KUHN HUARD S.A.**  
 Rue du Québec - BP 49 - F-44142 Châteaubriant Cedex-France  
**KUHN NORTH AMERICA, INC.**  
 1501 West Seventh Avenue - P.O BOX 167 - Brodhead, WI 53520 - USA  
**KUHN FARM MACHINERY PTY. LTD**  
 313-325 Foleys road - Deer Park, 3023 Victoria AUSTRALIA  
**KUHN FARM MACHINERY (U.K.) LTD**  
 Stafford Park 7 - GB TELFORD/SHROPS TF3 3BQ

Some machines have a considerable weight. Respect the tractor gross vehicle weight rating, its lift capacity and maximum load per axle. The tractor front axle load must always reach minimum 20 % of the tractor net weight. Our material is produced in accordance with the European Machinery Directive in the member states of the European Union. In countries outside the E.U., our machinery complies with the safety regulations set by the country concerned. Some safety devices may have been removed from our leaflets in order to clarify the illustration. Under no circumstances should the machine be operated without the necessary safety devices in place (as specified by the assembly instructions and operators manual). We reserve the right to change any designs, specifications or materials listed without further notice. Machines and equipment in this document can be covered by at least one patent and/or registered design. Trademarks cited in this document may be registered in one or several countries.

**Also find KUHN on**

