



OPERATION MANUAL AND SAFETY INSTRUCTIONS

SWARD LIFTER

WBG-2, WBG-3 & WBG-5



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GLOSSARY



If you come across this symbol and heading, there is a direct hazard to life and health of man and animal!



This heading refers to possible risks of damage to machine(s), crops, buildings, etc. But also to possible financial and/or legal problems (warranty, liability, and the like)!

NOTE

This indicates a tip to make work easier, better and safer.

All figures, dimensions and weights are free of engagement.

References to direction in the text, such as "Left", "right", "front" and "rear", these are always meant to be seen from the forward travel direction of the tractor.

The same applies to the directions "clockwise" and "counter clockwise".

INTRODUCTION

Dear user,

This is the operation manual for the WGB-3 and WBG-5 Sward Lifter Grassland Subsoiler.



Read the operation manual carefully before starting to work with the machine and observe all instructions!
Pass on all safety instructions to other (fellow) users!

In order to use the Sward Lifter as safely as possible, you should be well aware of all recommendations and instructions in this manual. Damage and accidents caused by non-observance of these recommendations and instructions are your responsibility.

Please ensure that this operation manual is kept in a safe place for future reference.

If you have any more questions after reading this manual, please contact your dealer.

EVERS AGRO B.V.
Almelo, 07 March 2011

1. PURPOSE OF THE SWORD LIFTER

Field of application

The Sward Lifter is solely for use in regular arable farming. The Sward Lifter is designed to break up pans and surface compaction while lifting and opening up the subsoil for improved aeration and drainage.

Important features of the grassland subsoiler are:

- the spring loaded cutting discs that cut through the sward to prevent soil bursting on to the surface.
- Shear-bolt protected leg that breaks back to prevent damage.
- Spring-loaded press rollers that close the slots and level the surface.



Any deviating use is considered not matching the intended purpose. The user bears the risk of any damage and/or accidents. However, the above does not apply if written approval has been obtained in advance from the manufacturer!

2. LIABILITY AND WARRANTY

Anyone operating the machine, or carrying out adjustments or maintenance should read this manual carefully and observe the instructions to prevent danger.

That also means:

1. That work may only be carried out within the functional limits (e.g. max. speed), as laid down in the instructions for operation, maintenance and repair.
2. That locally applying regulations for accident prevention, safety, traffic and transport are to be observed.
3. That exclusively original or equivalent parts and lubricants must be used and mounted according to the instructions. A part and/or lubricant is considered equivalent when it has been approved by the manufacturer or when it can be demonstrated that it has the properties required for the function(s) in question.
4. That any changes / modifications on the machine that have not been approved in writing by the manufacturer, exclude all liability of the manufacturer for any damage.



Non-observance of the above rules shall be considered as negligence and will rule out any liability of the manufacturer for all possible damage and/or consequences.
The user is fully and solely responsible for any risk!

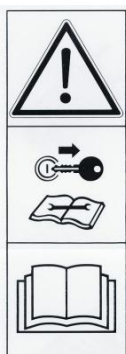
3. DANGER AND SAFETY DECALS



Working safely also means that you take proper notice of the various decals on the machine. You must know what they warn you

There are a number of safety decals on the machine. The ones used and their place on this machine are shown on the next page.

They have the following meaning:



Danger:

Stop the engine and remove the key from the ignition when working on the machine!

Attention:

Carefully read the operating manual before taking the machine into operation!



Danger:

There is a risk of flying objects and / or clods! Keep clear!



Danger:

Keep away from the fold-down parts when the locking pins with inserted retaining clip are not mounted! Keep clear!



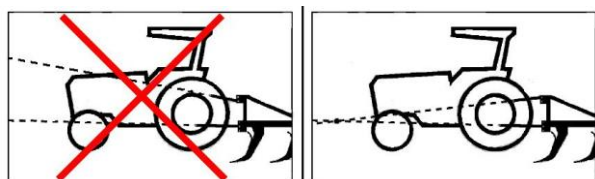
Danger:

There is a risk of parts folding down! Fix the locking pins with inserted retaining clip!



Danger:

Never stand between the tractor and the machine when the power lift is being operated!



Danger:

In operating position the top link must be higher on the machine side than on the tractor side!

4. THE LOCATION OF THE DECALS

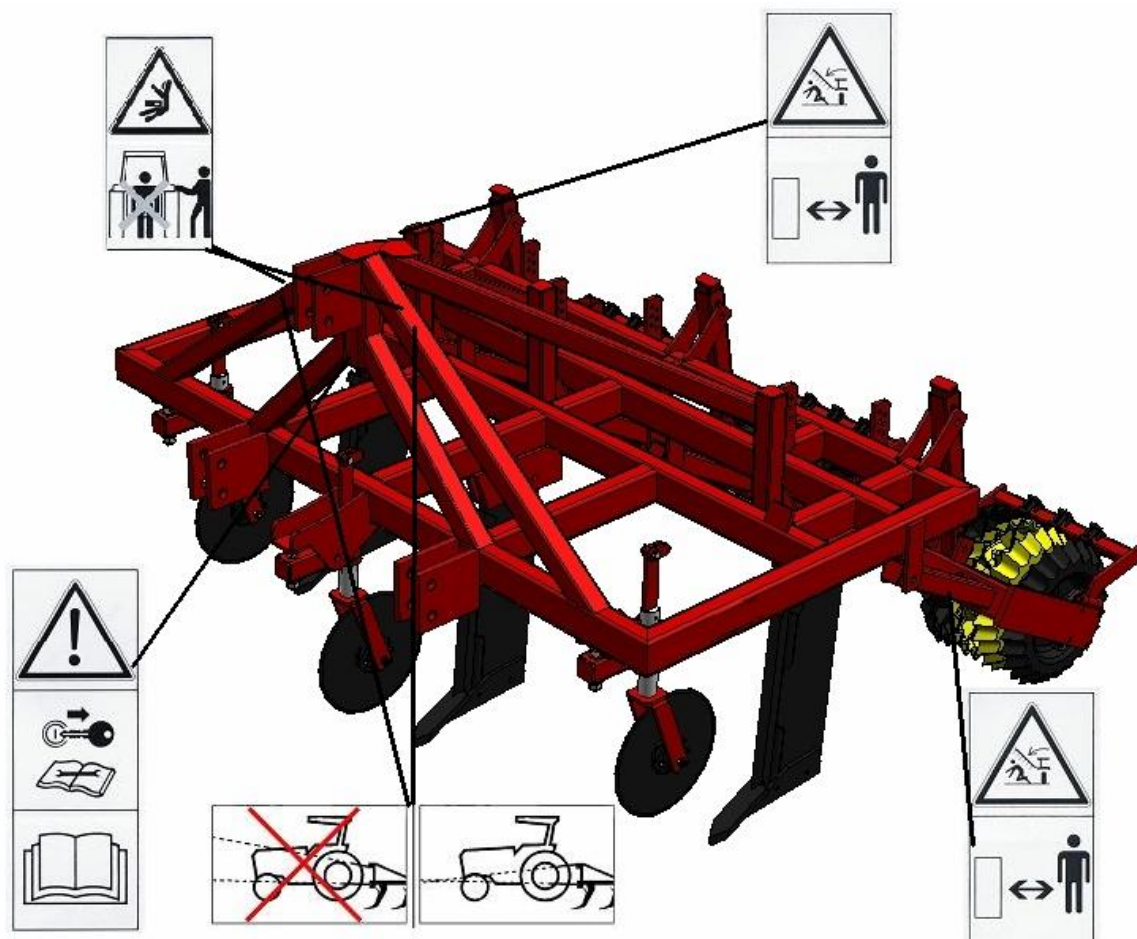


Fig 4.1 The location of the decals.



If decals are loose, have become illegible or are no longer on the machine, these must be replaced as well!

5. SAFETY INSTRUCTIONS

Read and understand these instructions before working with the machine!

If these safety instructions aren't observed, all liability of the manufacturer for any damage is excluded!

5.1 General

- The machine must only be used, operated and maintained by people who are familiar with the machine and who are aware of the risks!
- The operator should familiarise him-/herself with all controls and their functions before starting work. During work could be too late!
- In addition to the specific instructions of this manual, you should also study the general regulations for safety and accidents prevention in your country!

5.2 Road transport and use

- Always observe the road traffic regulations when using public roads!
- Check the safety of the machine and tractor before use as regards work and traffic!
- Observe the maximum permissible axle load, total weight and transport dimensions!
- Prior to road transport, check and mount transport accessories such as lighting, warning signs and any protective parts!
- Put the machine in the position intended for road transport and lock it according to the instructions!
- Always make sure that the machine has sufficient lateral stability in transport position!
- In case of road transport with the machine in lifted position, the control lever of the power lift must be locked to prevent lowering!
- Look around the machine and the tractor before driving off or starting to work. Make sure you have sufficient view. Look out for children!
- It is strictly prohibited to be on the machine during work or transport!
- The driver's seat must at all time be occupied during driving!
- Handling, manoeuvrability and brake performance are influenced by mounted machines and front weights. Therefore, make sure you work with an adequate steering and breaking installation.
- Always adapt the forward speed to the condition of the terrain!
- When making turns, take into account the length/width (turning circle) and/or swinging out, due to the large mass of the machine!
- Only work with machines with the protective provisions complete, intact and in the functional position!
- There must be nobody within the operating and danger range (including turning and swinging circle) of the machine. At the rear of the machine clods or other objects may be flung away!
- There must be nobody between the tractor and the machine, until the vehicle is prevented from moving by means of the parking brake and/or wheels chocks!
- When leaving the tractor, put the machine on the ground, switch off the tractor engine and remove the ignition key!
- The warning decals on the machine give important instructions for safe use; observing them is for your own safety!
- The user must wear closely fitting clothes. Avoid loose clothing!
- Always mount weights on the tractor according to the instructions on the fixation points intended for that purpose!

5.3 Mounting and dismounting

- Mount machines and accessories according to the instructions and mount the machine and/or parts/accessories only to the provisions intended for that purpose. Make sure they are locked effectively!
- Special care must be taken when mounting or dismounting the machine on or off the tractor
- When mounting or dismounting the machine on or off the three-point linkage, put the power lift control in a position in which inadvertently lifting or lowering is not possible!
- For a three-point linkage the linkage category of the machine must always match that of the tractor!
- The three-point linkage system constitutes a risk of accidents by getting caught and jack-knifing. The same risk exists with the cylinders (if mounted) and the linkage arms and lifts rods!
- The control for the three-point power lift outside the tractor cab must be operated without getting between the tractor and the machine!
- The release ropes for quick coupler should hang freely and in the lowered position must not release the quick coupler by themselves!

5.4 Maintenance

- Repair, maintenance and cleaning activities, as well as repairing malfunctions, must only be carried out with the tractor engine switched off. Remove the ignition key!
- When the machine is in the lifted position for repair, cleaning or maintenance, support legs must be used. Only work on a firm surface!
- Regularly check to ensure all bolts and nuts are tight. Tighten if necessary!
- Parts must at least satisfy the technical specifications prescribed by the manufacturer!
- Always check whether replaced and/or dismantled parts are mounted correctly before using the machine again!
- Ensure that any damage is repaired at once before using the machine again!
- When conducting electrical welding operations on the tractor or on the mounted implement remove cable from the generator and the battery!
- Before working on the electric gear disconnect battery cables!
- When replacing cutting edges, always use the suitable tools and gloves!
- Dispose of old oils and grease as prescribed by law.

5.5 Tyres

- Fitting tyres requires knowledge and special tools!
- When working on the tyres, make sure that the machine has been placed on the ground safely and that it is secured by chocks against unintentional rolling!
- Repair work on tyres may only be conducted by trained staff and with suitable tools!
- Check the tyres regularly and replace them in case of deterioration and damage. New tyres must satisfy the technical specifications prescribed by the manufacturer!
- Check the pressure of the tyres regularly and adhere to the advised air pressure. (See table).
- In case of doubt, contact your dealer or see a tyre tension table.

Tyre	Max. speed	Min. pressure in Bar	Best pressure in Bar	Max. Pressure in Bar
195 65/15	30 km/h	2	2,5	3
10.0/75 - 15,3 14pr	40km/h	3.5	5.5	7

6. MOUNTING AND DISMOUNTING



Always fit the supplied pins and retaining clips and check whether they are locked securely!

The standard version is based on a three-point linkage: Category II three-point linkage. (= lift pins \varnothing 28 mm, top link pin \varnothing 25 mm and retaining clips \varnothing 11 mm and \varnothing 8 mm).

This machine can also be fitted with a Category III three-point linkage (= lift pins \varnothing 36,5 mm, top link pin \varnothing 31,5 mm and retaining clips \varnothing 11 mm).

Do **not** use pins with a smaller diameter!

Make sure that the three point linkage has enough stabilisation to the side! The machine should not be able to move more than 5 cm side ways.

During mounting, dismounting and transport of the machine, the power lift of the tractor must be in position control, and must be protected against accidental lowering!

6.1 Mounting

There are three mounting options for the top link pin. A slotted hole and 2 round holes. The slotted hole is intended for stony soils. If the machine should strike a rock, it can move upwards. The round holes are intended for soils without stones or rocks. In operating position the top link must be higher on the machine side than on the tractor side! Only in this position is it possible for the machine to move up in case of soil that is not completely flat (fig 6.1)

In stony soil the top link must be placed between the special slotted holes. Ensure that the supplied slotted hole washers are placed on both sides of the top link pin. Only in this position can the front gang move up when it hits a large stone.

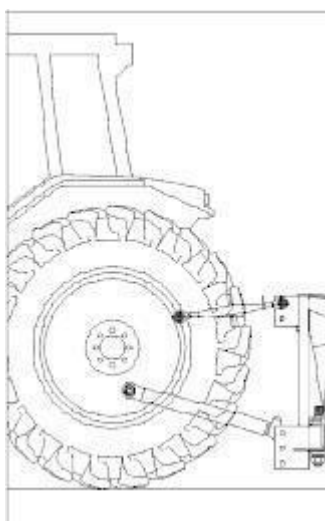


Fig 6.1 The top link must be higher on the machine side than on the tractor side!

When setting the working depth, the top link pin must be at the back of the slotted hole.

- When the machine is in working position, the tractor's power lift must be in floating position (see the manual of the tractor).
- Adjust the check rods or chains of the tractor correctly to prevent lateral sway.

6.2 Dismounting and storing

- Make sure that the tractor hydraulic is set to position control.
- It is important to thoroughly clean the machine with water.
- The bearings and joints should also be greased as prescribed in chapter 9 Maintenance.
- Dispose of old oils and grease as prescribed by law.
- Let the machine rest on a flat soil.
- Let the roll rest on the ground or on solid wooden blocks with enough stability.
- A roll made of synthetic material **must** be supported on the metal parts by wooden blocks, the synthetic material should not touch the ground, else it will deform.
- Make sure the machine has enough stability.
- Dismount the machine from the tractor.

7. ADJUSTING SWORD LIFTER.

NOTE

The mounting height depends on the tyre size of the tractor. It is recommended to have the lower links as level as possible, while the top link is mounted higher to the machine than to the tractor.

7.1 Adjusting the working depth

The working depth of the grassland Sward lifter with the prisma roller is controlled by the hydraulics of the tractor (please consult your tractor manual for this) and the adjustment of the prisma rollers at the rear side of the Sward lifter.

Calibration of the prisma rollers is carried out by adjusting the springs at the rear of the machine. The tighter the spring is stretched, the shallower the machine will work. It is important that the springs are not too tightly stretched as this will lift the Sward Lifter out of the ground,

To adjust the maximum depth, use the pin holes above the rollers. When adjusting the rollers, the depth of the cutting disc must be adjusted at the same time, +/- 5-8 cm into the ground and this is done by using the adjusting rings. This calibration is very important as the cutting discs prevent soil bursting on to the surface.

While working the sward lifter without the depth-pins the maximum traction on the tractor wheels is achieved. With the depth-pins the maximum pressure on the prisma rollers is assured,

Important:

Make sure that the machine is completely horizontal, if this is not the case it can be adjusted with the top link.

8. INSTRUCTIONS FOR USE

- It is forbidden to make tight turns with the machine in working position.
- It is not advisable to use the grassland Sward Lifter on ground where there is a lot of heavy stones (stones >15cm)
- The machine can only work properly when travelling forward.
- Set the rate of drop of the power lift in such a manner that when lowering into the soil or putting down, the machine does not bump on the ground, so as to prevent damage to tines and shares.
- When lifting the machine out of the soil, this is best achieved whilst moving the tractor slightly backwards.

9. MAINTENANCE



See chapter 5 “SAFETY INSTRUCTIONS” sub 5.5 “Maintenance”



When the machine is in lifted position for repair, cleaning and maintenance activities, support legs must be placed under the machine and it must rest on them.
Switch off the engine and remove the ignition key!

9.1 General

- Regularly check whether all bolts and nuts are tight.
- Also check the bearings of the roller regularly.
- After maintenance always check that the bearings are remounted correctly.
- Check the hydraulic hoses, pipes and all connections regularly and replace them if there is any deterioration or damage.
- Clean the machine with water after every use.
- When the machine has been in contact with manure, the bearings of the roller must be filled with grease, to counteract the aggressive influence of ammonia.



The disc blades are sharp. Avoid wrenches slipping when working near the disc blades. Avoid climbing on machine above the disc gangs where there is possibility of slipping or falling. Serious injury could occur!

9.2 Lubrication

Grease nipples are installed in the following places.

- a) The bearings of the cutting discs.
- b) The bearings of the prisma rollers.

Every 20 working hours

The bearings must be topped up with grease every 20 working hours, after cleaning the grease nipples, with a properly working manual grease gun, until pressure is clearly felt. Usually two strokes of the gun will suffice. Directly after greasing, the disc must be turned at least one revolution. Never use a compressor gun. Too high pressure can damage the grease sealing ring, causing fine soil particles to enter the bearing housing. When the machine is not to be used for any length of time, it is recommended that coat of grease or oil is applied, particularly when the machine has been in contact with manure. Dispose of old oils and grease as prescribed by law.

10. TECHNICAL SPECIFICATIONS

Technical specifications grassland Sward lifter:

Type	WGB-3	WGB-5
Tintype	MT	MT
Number of tines	3	5
Tine spacing (cm)	75 of 90	75
Share width (cm)	6	6
Tine position	V	W
Working depth max (cm)	50	50
Working width (cm)	225 - 270	375
Transport width (cm)	270	270
Tractor power (minimum HP)	90	130
Tractor power (minimum kW)	66	95
Linkage category	II	II
Gewicht (kg)	790	1215

The noise level of the grassland Sward lifter does not exceed 70dB(A) during work.

11. ORDERING PARTS

Contact your local dealer to order spare parts.

Please state the following data when ordering parts.

1. Machine Type (MT) and the production identification number (PIN), this information can be found on the EC certificate of conformity.
2. Name, article number and quantity of the article.

If you are not sure of the correct part number of a part, you can take it to your local dealer or send in the original to prevent incorrect delivery.



If decals are loose, have become illegible or are no longer on the machine, these must be replaced as well!

12. EC CERTIFICATE OF CONFORMITY

We,

Evers Agro B.V.
Bedrijvenpark Twente 326
NL-7602 KL ALMELO
The Netherlands

Declare that the machine

Machine Type (MT): **Sward Lifter**

Order number	:
Name	:
Model	:
Product Identification Number (PIN)	:
Weight	:

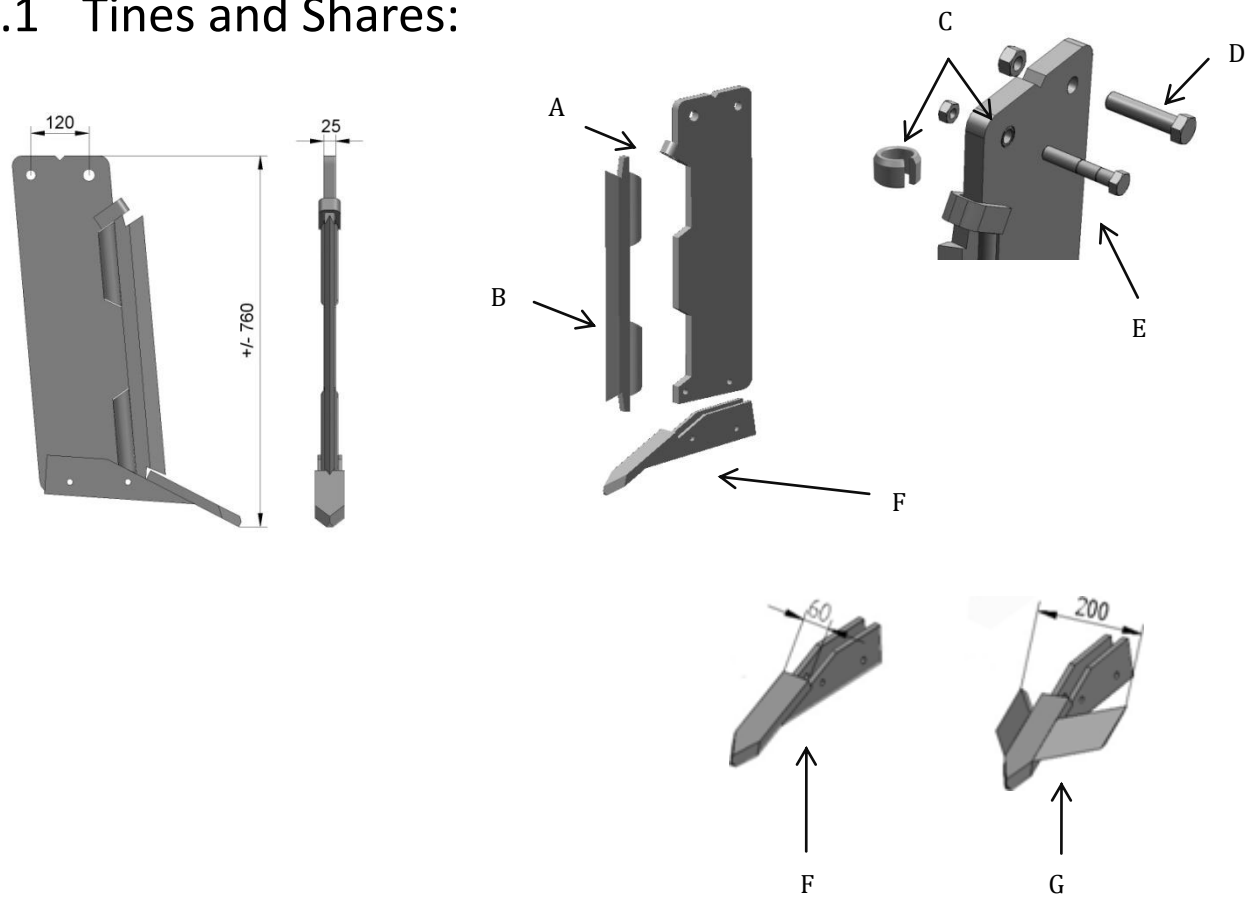
Conforms to the relevant essential health and safety requirements of the
Machine Directive 89/392/EEC and 91/368/EEC.

Almelo, The Netherlands
7 March 2011

G.J. Kamp, The Director

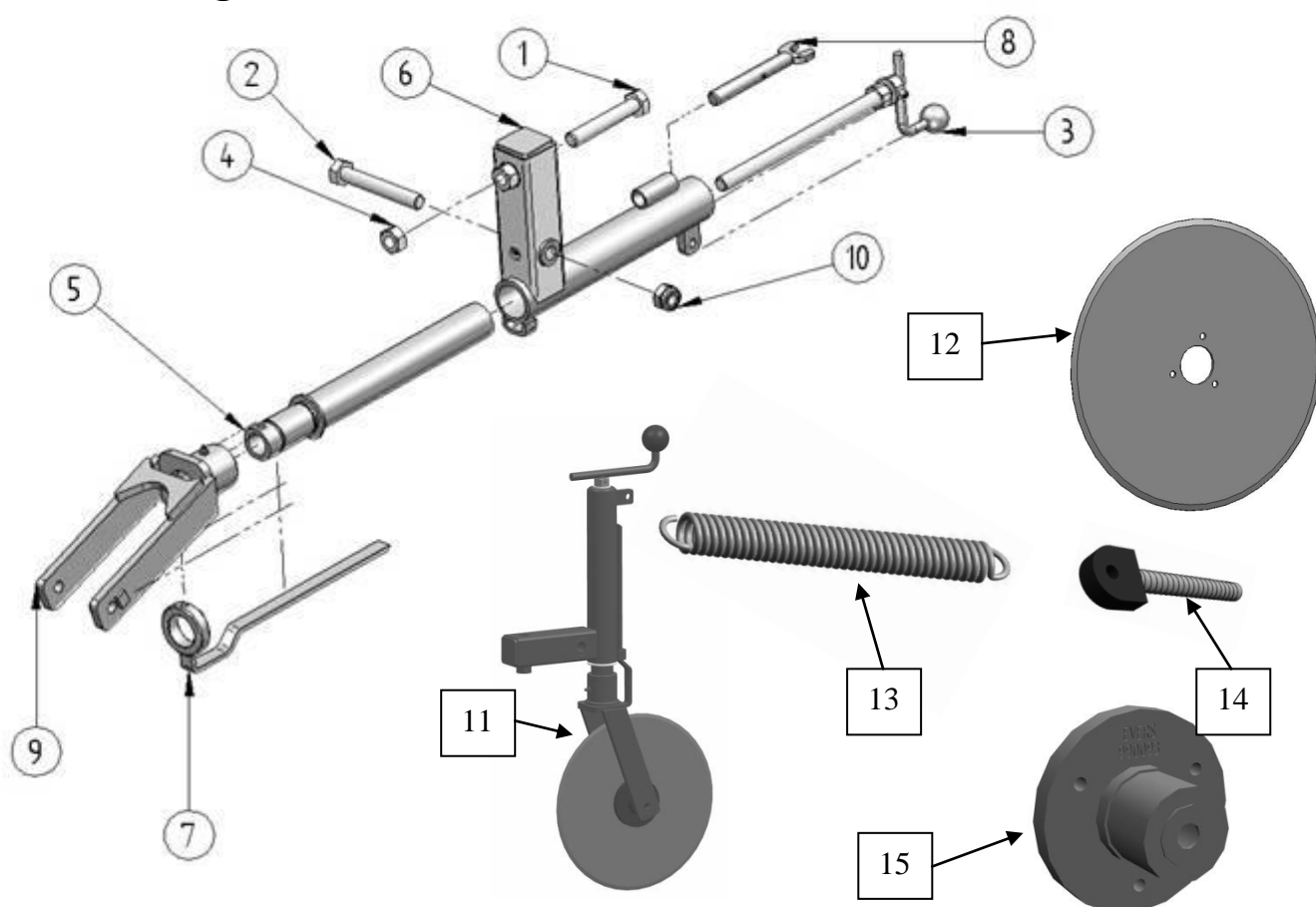
APPENDIX I: PARTS LIST

I.1 Tines and Shares:



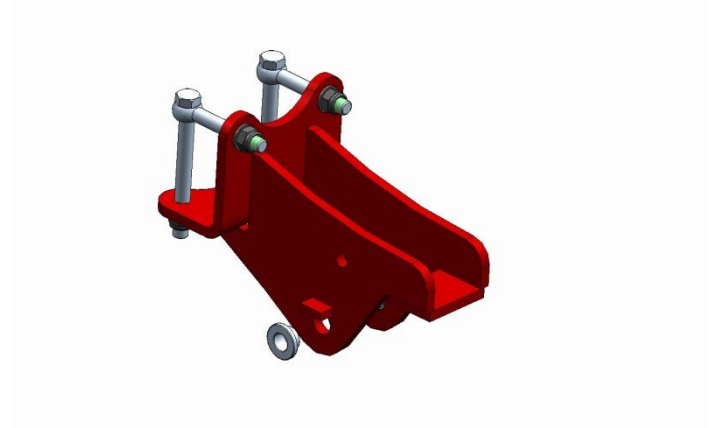
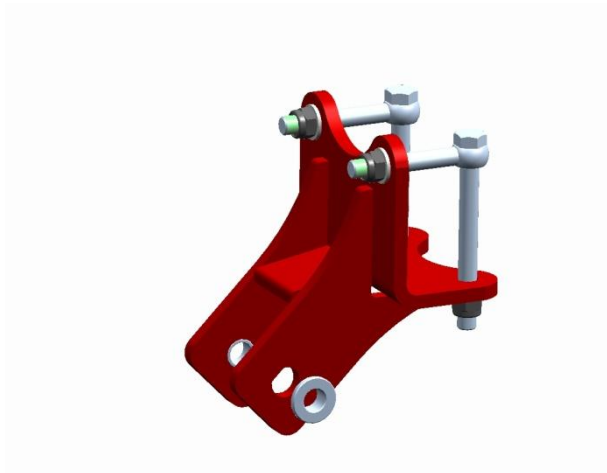
Pos.	Part no.	Description
A+B+F	991366	Tine with wear knife and share point 60 mm
A+B	990313	Tine with wear knife without point
C	990190	Tension bush for tine (25,5 x 25 mm)
C*	990191	Tension bush for machine (25,5 x 15 mm)
D	990130	Pivoting bolt
E	990116	Shear bolt Quality 8.8
E*	990120	Shear bolt Quality 10.9
F	990266	Chisel point (Manganese steel) 6 cm wide
G	990267	Chisel point (Manganese steel) 20 cm wide (duck foot)

I.2 Disc grassland Sward lifter:



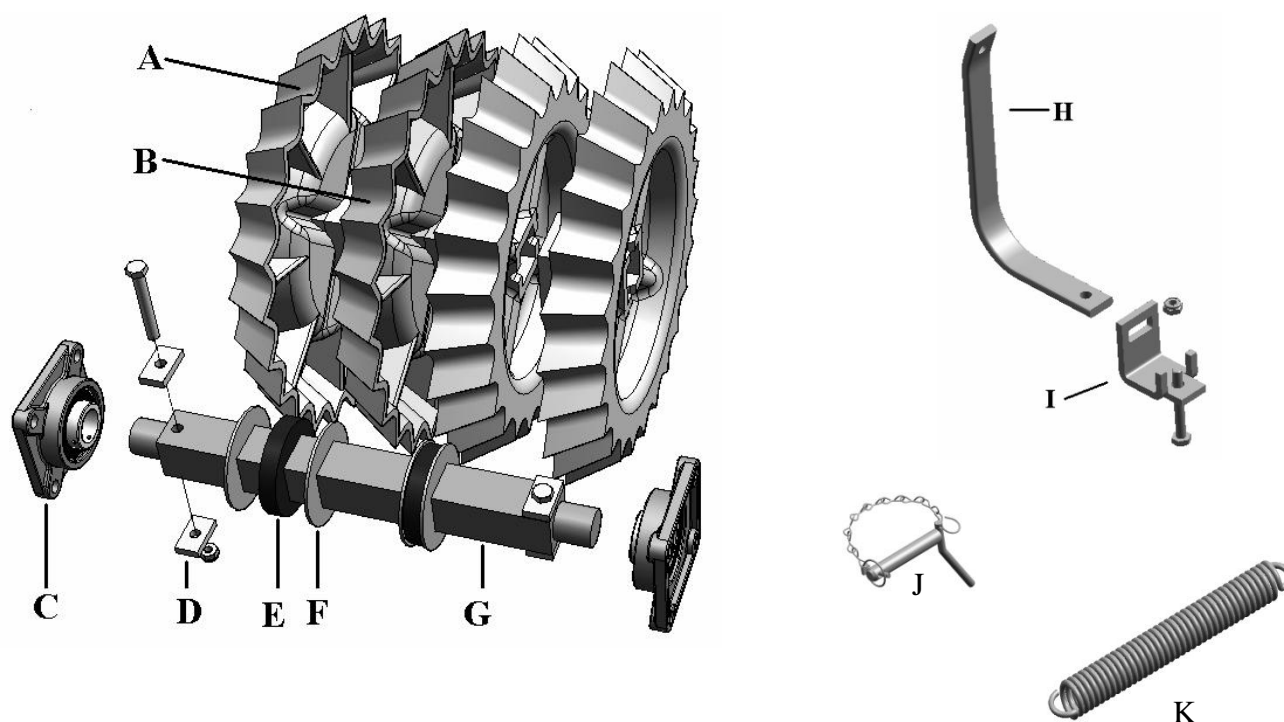
Pos.	Part no.	Description
1	102012	Bolt M20x120 Qual. 8.8
2	990488	Bolt M20x130 Qual. 8.8 threadlength 22 mm
3	992241	Turning handle spindle adjuster
4	100020	Nut M20 Qual. 8
5	992243	Spindel inner tube Sward lifter
6	992244	Spindle outer tube Sward lifter
7	992242	Ring + depth marker spindle adjuster Sward lifter
8	992229	Locking pin for Spindle adjuster
9	992236	Fork Spindle adjuster Sward lifter lower part
10	100120	Self-locking nut M20 Qual. 8
11	992202	Adjusting spindle Disc leg (Incl. disc 12 and hub 15)
12	990082	Disc Ø 46 cm
13	993041	Spring L=234 mm
14	992217	Eye bolt
15	990093	Hub

I.3 Spindelbracket



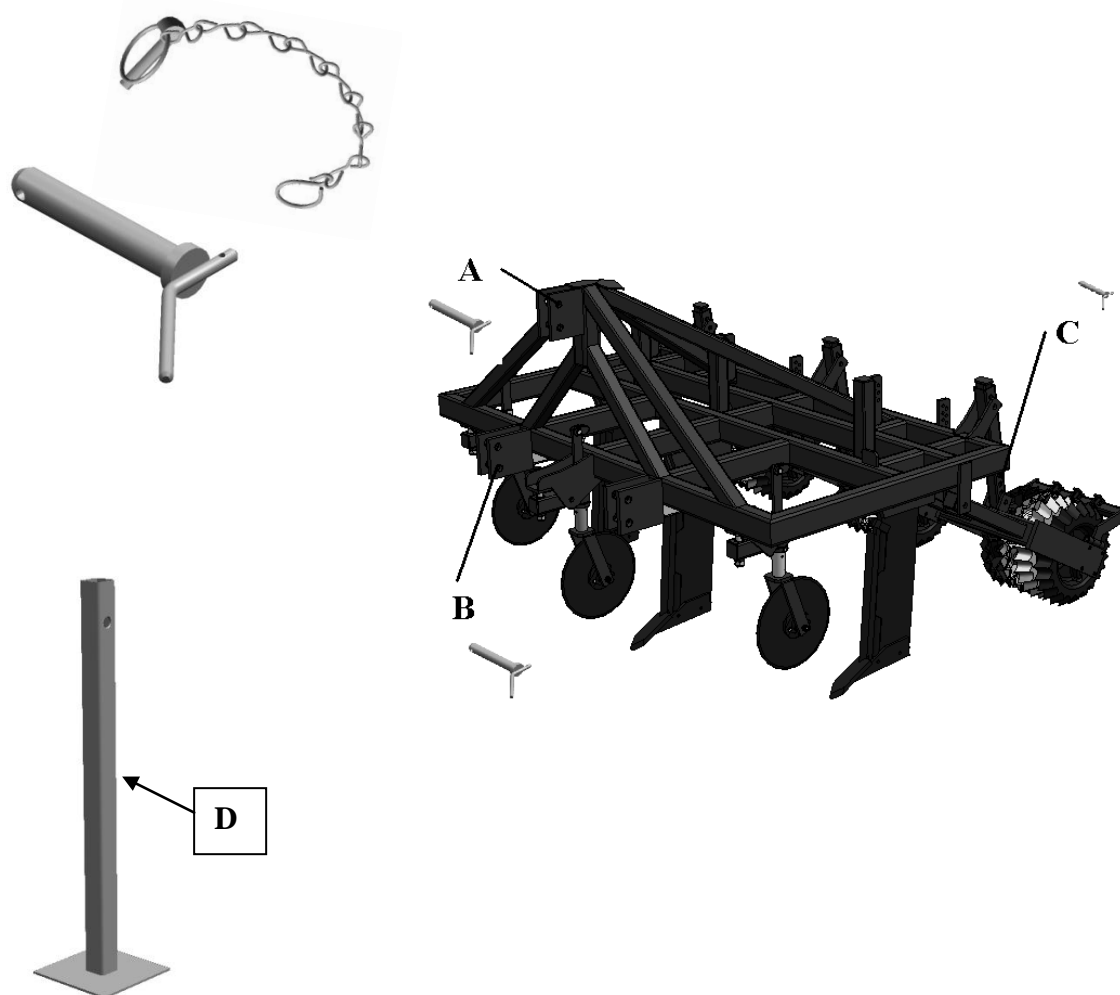
Pos.	Part no.	Description
1	992237	Bracket spindle mounting WBG (left / right)
2	992238	Bracket spindle mounting WBGH (left / right)
3	992239	Bracket spindle mounting WBG (center)
4	992240	Bracket spindle mounting WBGH (center)

I.3 Prisma roller grassland Sward lifter



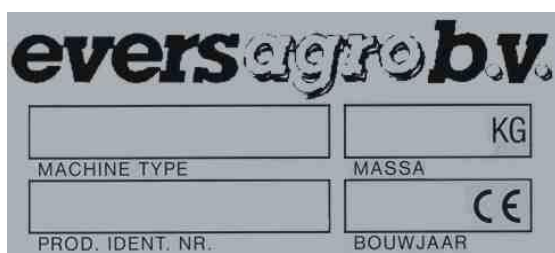
Pos.	Part no.	Description
A	G 75420	Prisma ring (Casted steel)
B	G 75421	Prisma ring short (Casted steel)
C	990200	Bearing SBF 207, shaft Ø35 mm
D	G 71195	Clips on shaft
E	G 70180	Distance washer synthetic (16 mm)
F	G 13550	Spacer metal
G	G 90501	Square shaft 45
H+I	G 10707	Scraper
H	G 10701	Scraper tine
I	G 10706	Scraper clip
J	992206	Depth control pin Ø 20mm
K	993041	Spring roller

I.4 General-purpose

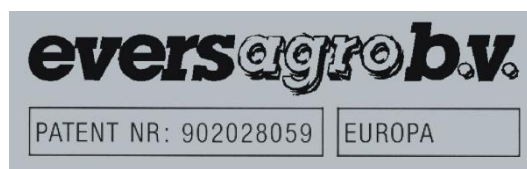


Pos.	Part no.	Description
A	992213	Top link pin Ø25 mm
B	992204	Lower hitch pin Ø28 mm, Cat. 2
C	992206	Depth control pin Ø 20mm
D	990220	Support leg

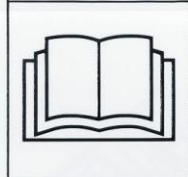
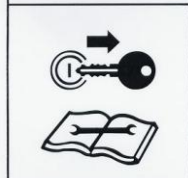
I.5 Identification plate, patent plate and safety decals



A



B



C



D



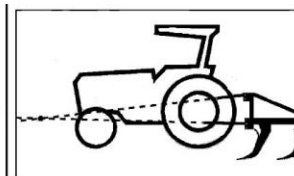
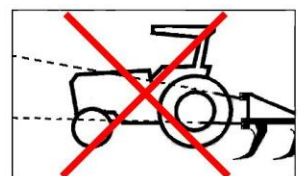
E



F



G



H

Pos.	Part no.	Description
A	992061	Identification plate
B	992062	Patent plate, Evers disc harrow Vari-Disc
C	992054	Safety decal "Read operation and safety instructions / remove ignition key when working on machine"
D	992055	Safety decal "Do not stay between tractor and machine"
E	992056	Safety decal "Keep clear"
F	992057	Safety decal "Keep away from folding parts"
G	992058	Safety decal "Fix locking pins with inserted retaining clip"
H	992066	Attention decal "Correct mounting topline between tractor and machine"