



**MACHINE CONSTRUCTION**  
AGRICULTURE    IRRIGATION    EARTH MOVING

**MANUAL AP SILAGE CUTTERS, TYPE:**

**NP 1600 (DB), NP 1800 (DB), NP 2000 (DB), NP 2200 (DB), NP 2400 (DB)**





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## **1. INTRODUCTION:**

Before using the AP silage cutter, please read this manual carefully. Get acquainted with the regulations. Controlling an AP silage cutter which you are not acquainted with can cause accidents.

In view of safety AP Machinebouw B.V. advises the silage cutter to be used only by skilled personnel. Besides this aspect the following regulations must be observed :

A youthful person, younger than 18 years, cannot perform any labour consisting of :

- the coupling or uncoupling of trailers or instruments to a pulling vehicle,
- the driving of tractors.

In case you have, after reading this manual, questions considering safety, controlling or maintenance instructions, please contact your AP dealer or AP Machinebouw B.V.

Provide this manual to anyone who controls the AP silage cutter.

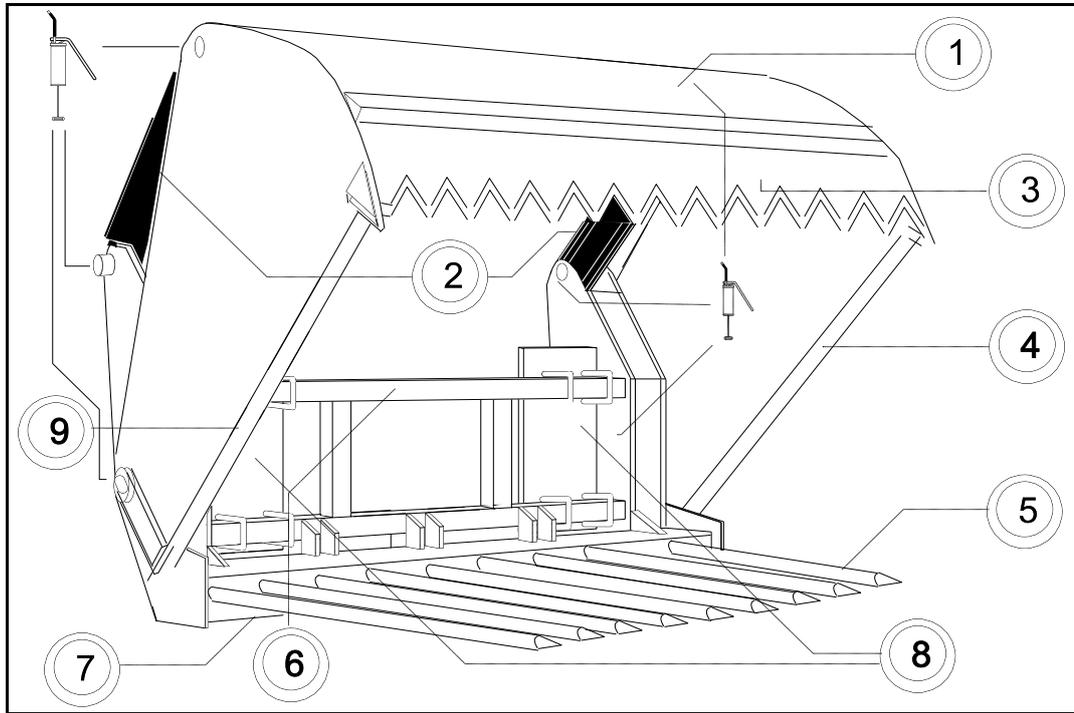
AP Machinebouw B.V. reserves the right to carry out adjustments in design and executions to any of the by AP produced silage cutters, without any obligation regarding formerly delivered AP silage cutters.

### **1.1 Options within the manual:**

The AP silage cutters can, either by the manufacturer or by the dealer, be equipped of several options such as: hydraulic push-off system (**HA**), hydraulic push-off system with folding base (**HAN**), removable inlay (**IB**) and several types of hydraulic valves to adjust the oil and the pressure flow.

When your silage cutter is equipped with one or more of these options, for control and precautionary measures of the concerning option we refer to the instructions in the relevant paragraphs in this manual (see Table of contents).

**2. GREASING POINTS AND MOST IMPORTANT PARTS:**



- 1 Cutting frame
- 2 Hydraulic cylinders
- 3 Front knife
- 4 Left side knife
- 5 Tines
- 6 Rear frame
- 7 Main tube
- 8 Removable mounting plates
- 9 Right side knife



### **3. PRODUCT INFORMATION:**

#### **3.1 General:**

The AP silage cutter is developed to take out all sorts of ensiled forage products and is ideal for the loading of mixing wagons, dose wagons etc. It can also be used to tank out dung from stables.

The AP silage cutters with the type codes **NP 1600** and **NP 1800** are constructed in such a way that they can be mounted on practically every wheel loader, telescopic loader or tractor with front loader, provided that the tractor has a power of at least 50 kW (also see 'technical specifications').

AP Machinebouw B.V. strongly advises to only use the silage cutter in combination with a four-wheel drive tractor.

Furthermore these types of silage cutter can be used in combination with a rough terrain forklift, provided this is equipped with the proper hydraulic connectivity options.

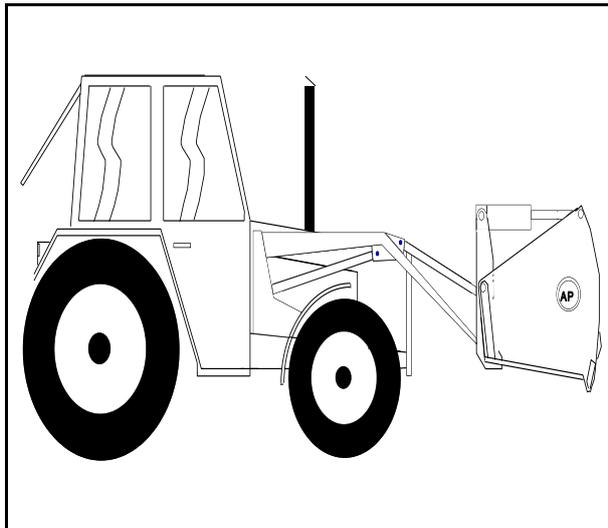
The AP silage are delivered with attachment plates and, possible quick change hooks. Your dealer or AP can mount the appropriate attachment system suitable for your tractor front loader, wheel loader or telescopic loader. The manner of attachment of the AP silage cutter can therefore differ per type front loader and wheel loader. We refer to the manual of your tractor front loader, wheel loader or telescopic loader.

#### **3.2 Precautionary measures:**

General regulations:

- \* It is strictly forbidden to transport persons or animals with the AP silage cutter.
- \* Never climb into the AP silage cutter.
- \* The user of the AP silage cutter must keep all bystanders out of the working area of the combination.
- \* This manual should be available to every person who uses the AP silage cutter;
- \* The owner of the AP silage cutter is responsible for the tractor, wheel loader or telescopic loader and the AP silage cutter to meet the standing regulations if the combination is on the public road.
- \* Follow all the rules and regulations which are mentioned in the manual of your tractor front loader, wheel loader or telescopic loader.
- \* Before you step down the tractor, wheel loader or telescopic loader always check the hand brake and make sure that the gear of the tractor, wheel loader or telescopic loader is in neutral.

- \* Be careful when you work on sloping surfaces and / or on uneven terrain and make sure you keep enough stability.
- \* When you drive on the public road with the AP silage cutter the general traffic rules are valid. In principle, the AP silage cutter provides no danger on the public road. Make sure that the cutting frame of the silage cutter is completely closed and that the lifting arms of the front loader, wheel loader or telescopic loader are adjusted so low that they do not obstruct the view (see image 1).

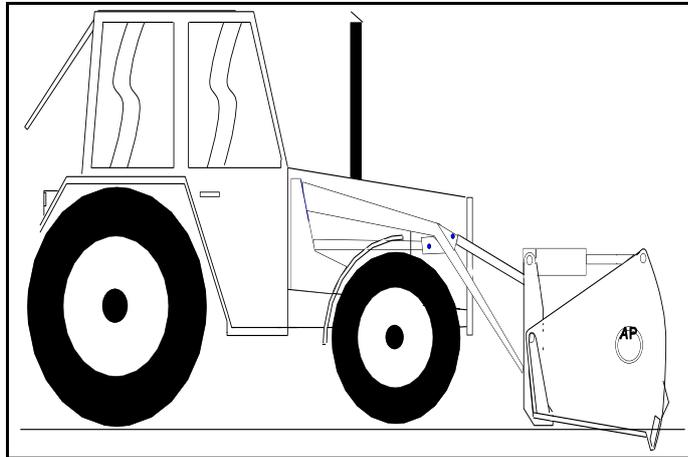


*Image 1*

- \* It is not allowed to use the AP silage cutter on the public road for transportation purposes.
- \* If oil leakage appears in the hydraulic system, the oil can penetrate the skin and cause heavy injuries. **Never** try to close a leakage by hand. Immediately contact a physician when someone gets hurt.
- \* It is strictly forbidden to alter the adjustment of the pressure relief / safety valve, this can i.a. lead to damaging of the system and / or personal injury.
- \* Make sure that **all** coupling pins, if present, are provided with original and undamaged safety bolts.
- \* Only couple the AP silage cutter with the regulated means. Be careful during coupling and uncoupling of the AP silage cutter.
- \* In the absence of a quick release system, during the coupling or uncoupling of the silage cutter to the three-point-linkage, front loader, the lifting arms of the wheel loader or telescopic loader, switch off the engine and engage the parking brake.

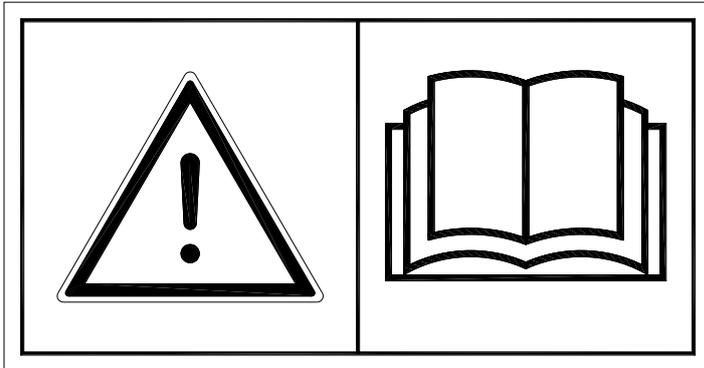


- \* If you are not using the combination tractor, wheel loader, telescopic loader and silage cutter, always place the silage cutter horizontally on a flat surface, **the cutting frame closed**, also see image 2.



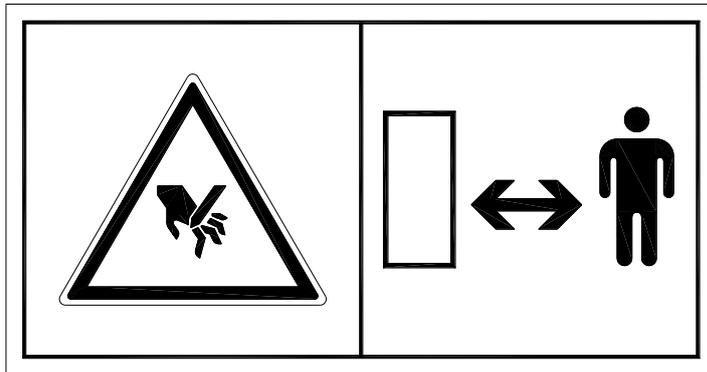
*Image 2*

### 3.3 Explanation symbols and warnings:



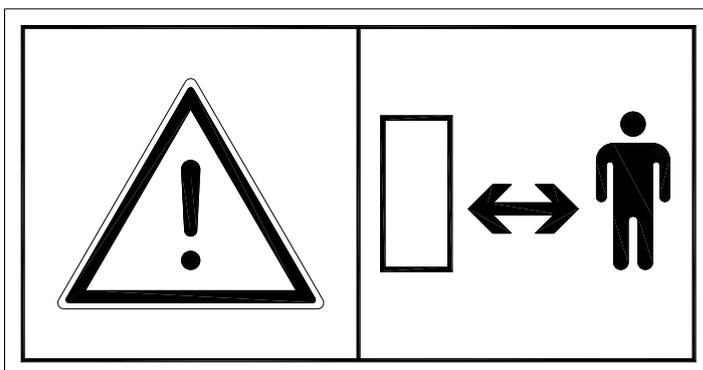
**WARNING:**

Before using the AP silage cutter please read the instructions and precautionary measures in the manual and follow these.



**WARNING:**

Keep at a safe distance to an active AP silage cutter; there is a danger of injury of limbs by sharp parts.



**WARNING:**

Keep at a safe distance to an active AP silage cutter.



### 3.4 Technical specifications:

Type	Width (cm.)	Height (cm.)	Depth (cm.)	Capacity (m <sup>3</sup> )	Weight (kg)
NP 1600	160	86	85	1,20	705
NP 1600 DB	160	86	85	1,20	760
NP 1800	180	86	85	1,35	749
NP 1800 DB	180	86	85	1,35	804
NP 2000	200	86	85	1,50	793
NP 2000 DB	200	86	85	1,50	848
NP 2200	220	86	85	1,65	835
NP 2200 DB	220	86	85	1,65	892
NP 2400	240	86	85	1,80	936
NP 2400 DB	240	86	85	1,80	936

Every type is suitable for use in combination with tractor, wheel loader and telescopic loader.

Concerning the hydraulic system of the tractor, wheel loader or telescopic loader, the following requirements apply:

- Minimum hydraulic pressure = 180 Bar
- Maximal allowable hydraulic pressure = 200 Bar
- Minimum litres/minute = 25
- Maximal allowable litres/minute = 50

### 3.5 Customer service:

Customer service is a responsibility of the AP dealer. You can turn to him for spare parts, complaints, wishes and imperfections. The AP dealer is in contact with AP Machinebouw B.V. (the manufacturer).

The complete address of AP Machinebouw B.V. is:

AP Machinebouw B.V.  
Ambachtstraat 21  
8313 AV RUTTEN  
Netherlands  
Telephone : 0031 527 618 246  
Telefax : 0031 527 698 760  
info@apmb.nl

AP Machinebouw B.V. constantly aims to improve her products and therefore appreciates suggestions and remarks of the user which can lead to an improvement of her assortment.



## **4. INSTALLATION:**

### **4.1 Transport regulations:**

If the AP silage cutter is being transported separately from a tractor / mini loader, the cutting frame always must be closed. This is to avoid injuries to limbs by the tines and / or knives of the AP silage cutter and to avoid damaging to the hydraulic cylinders. Make sure that the parts of the hydraulic system (among which the hoses) cannot be damaged.

If you want to transport the AP silage cutter on a lorry (or anything similar) you have two possibilities:

- 1: You put the AP silage cutter on a pallet, tie it down and places it with the help of a forklift truck on the lorry.
- 2: You hoist the AP silage cutter with the help of a pulley on the lorry.

**WARNING:** Use solid hoisting material and fix the hoisting cables / chain(s) always in such a way, that the AP silage cutter remains a good stability during the hoisting.

During transport on the road the customer must pay particular attention to the lighting of the AP silage cutter (see safety regulations).

### **4.2 Assembly regulations:**

The AP silage cutter is fully operational delivered by **AP Machinebouw B.V.**, excluding possible attachments for your tractor front loader, wheel loader or telescopic loader. This attachment system will be attached to the silage cutter by AP or your dealer, based on the specifications you gave of the tractor front loader, wheel loader or telescopic loader. There are no further specific assembly regulations.

AP Machinebouw B.V. does not take any responsibility for replacing of spare parts by the user, in that case the warranty expires. Replacing of spare parts must be done by the AP dealer.

### **4.3 Hydraulic connections:**

#### **4.3.1 *Silage cutter in combination with tractor front loader, wheel loader or telescopic loader:***

To control the AP silage cutter without hydraulic push-off system your tractor front loader, wheel loader or telescopic loader only requires one double functioning control valve. If your silage cutter is equipped with a hydraulic push-off system your tractor, wheel loader or telescopic loader requires a twofold double functioning control valve.

The specific operation of the control valve(s) of your tractor front loader, wheel loader or telescopic loader with regard to the control of the silage cutter is non-universal and therefore cannot be specified in this manual.



## **5. USE OF THE AP SILAGE CUTTER IN COMBINATION WITH TRACTOR FRONT LOADER, WHEEL LOADER OR TELESCOPIC LOADER:**

### **5.1 Coupling:**

Because coupling systems for front loaders, wheel loaders and telescopic loaders are not uniform it is not possible to completely describe the action “coupling” in this manual.

For safety and general instructions with regard to the coupling of the AP silage cutter we refer to the manual of your tractor front loader, wheel loader or telescopic loader.

We do mention some general important safety and operating instructions :

**WARNING:** Always couple the AP silage cutter to the front loader / lifting arms, before you connect the hydraulic hoses.

**WARNING:** Never stand between tractor, wheel loader, telescopic loader and silage cutter, without having switched off the engine and having engaged the parking brake.

**WARNING:** Make sure that the hydraulic system of the AP silage cutter cannot be damaged in any position of the front loader / lifting arms of the mini loader.

### **5.2 Using the AP silage cutter:**

For using the AP silage cutter the following instructions must be followed accurately and in chronological order. In this description we assume your silage cutter is equipped with a push-off system (**HA / HAN**). When your silage cutter is equipped with a hydraulic push-off system, then hold additional account of the italicized instructions. At the push-off system with folding base (**HAN**) in this section we assume the base is secured in vertical position. For specific safety and operating instructions of the folding base we refer to sections 7.1, 7.1.1 en 7.1.2.

When your silage cutter is not equipped with a push-off system you can ignore any instruction regarding the push-off system in this section:

- 1 Start position: closed cutting frame and push-off system on the main tube (retracted),
- 2 Adjust the tines of the AP silage cutter horizontally, at the height at which you want to take out the feed,
- 3 Open the cutting frame and move the joystick to the neutral position, once the cutting frame has reached the highest position;  
Make sure the push-off system is completely retracted on the main tube,
- 4 Make sure that the height at which the AP silage cutter is adjusted such is that the horizontal knife protrudes above the silage, see image 3,

**WARNING:** If you want to take out feed from the floor, make sure the tines or the closed bottom cannot grab in the ground or in any other way can get stuck behind obstacles.

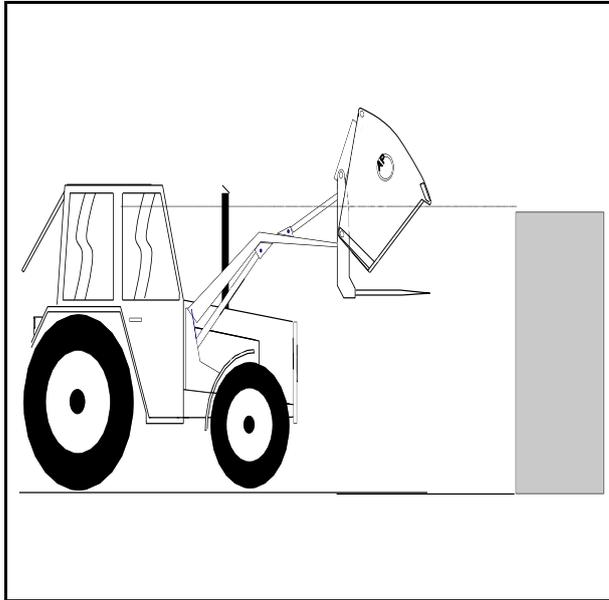
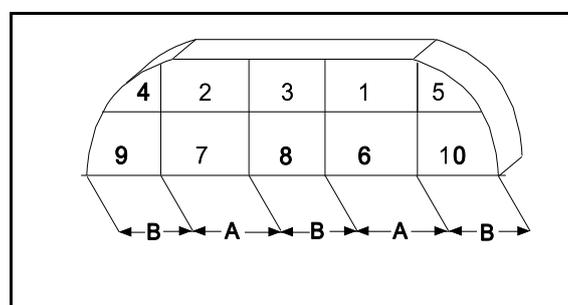


Image 3

5 Carefully drive the AP silage cutter until the head tube / push-off system in the stock of feed; push the tines / closed bottom downwards on the silage to prevent possible bending of the tines or closed bottom,

**WARNING:** It is very important that the cutting frame is always loaded evenly, to avoid warping of the frame! With regard to this follow the correct order during cutting of the blocks : divide the width of the silage always in an uneven number of blocks and keep the system in the cutting sequence as indicated in image 4. In this image “A” stands for the working width of the AP silage cutter and “B” for the width of the AP silage cutter minus a certain distance!



6 Completely close the cutting frame of the silage cutter,

7 Tilt the AP silage cutter slightly back,



**WARNING:**                **Keep the filled AP silage cutter low during transport with regard to the stability.**

- 8        Manoeuvre the filled silage cutter to the place at which you want to put the cut feed block,
- 9        Open the cutting frame and keep the lever in the same position; after the cutting frame has opened itself the push-off system will automatically be activated,

**WARNING:**                **Make sure that the tractor engine is idling when the push-off system is activated; due to the larger oil flow at higher rpm the push-off system will be put in work too abruptly!**

- 9a      *Open the cutting frame,*
- 10      Drive backwards slowly eventually, to avoid spilling,
- (11)    Without push-off system:  
         Tilt the AP silage cutter forward and slowly open the cutting frame so that the feed slides gradually from the teeth in the mixing wagon,

**WARNING:**                **When you unload the feed at one time mixing or dose wagon can be damaged by the weight of the feed.**

- 12      Place the push-off system back in the start position (retracted); put the lever in that position which is necessary to close the cutting frame.

**WARNING:**                **Never use the AP silage cutter to slide feed blocks over the feed passage.**

### 5.3    **Uncoupling:**

Because coupling systems for front loaders, wheel loaders and telescopic loaders are not uniform it is not possible to fully describe the action “uncoupling” in this manual. For safety and general instructions with regard to the uncoupling of the AP silage cutter we refer to the manual of your tractor front loader, wheel loader or telescopic loader. We do mention some general important safety and operating instructions:

**WARNING:**    **Always uncouple the silage cutter on a flat surface.**

**WARNING:**                **Before driving away make sure the hydraulic hoses of the silage cutter do not / cannot get caught behind parts of the front loader, wheel loader or telescopic loader.**

**WARNING:**                **Lower de machine with the cutting frame almost closed, stop the engine of the tractor, wheel loader or telescopic**



**loader, lower the cutting frame completely, until the pressure of the hydraulic system is completely removed.**

## **6. MAINTENANCE:**

The AP silage cutter only requires little maintenance. During maintenance observe the following safety measure:

- \* Never maintain the AP silage cutter while it is coupled to the tractor, wheel loader or telescopic loader or when the hydraulic system can be activated in any other way.

### **6.1 Maintenance of the hydraulic system:**

Maintenance of the hydraulic system should only be done by the AP dealer. AP advises the user to regularly check the hydraulic system to leakage.

**WARNING: When leakage appears : stop immediately and contact the AP dealer.**

### **6.2 Greasing:**

All hinging parts of the AP silage cutter must be greased weekly with an universal lubricant. For all greasing parts see Chapter 2, Greasing and most important parts (page 2).

### **6.3 Damages:**

Another maintenance item are the coupling pins for attachment of the AP silage cutter to the front loader, wheel loader or telescopic loader. These pins must be checked for damages periodically (at least once per quarter, more often when used frequently). Although the AP silage cutter is a solid construction, the rest of the machine should also be checked for damages and possible loose bolts and nuts. Particularly the nuts with which the tines are attached to the AP silage cutter must be checked regularly. Damaged parts must be replaced by your AP dealer.

### **6.4 Cleaning of the AP silage cutter:**

Feed (and natural manure) often contain aggressive fluids which can corrode the AP silage cutter. AP therefore advises to thoroughly clean the AP silage cutter after it has been used, this promotes longevity. If the cleaning is done with the help of a high-pressure cleaner take care that it does not spout directly on the control valve (if present) or on other parts of the hydraulic system.

**WARNING: Do not use cleansers that may harm the health of persons and / or animals.**



If you will not use the AP silage cutter for a longer period then lubricate the parts that turned blank with a protective oil. Store the AP silage cutter with a closed cutting frame and make sure the chrome parts of the hydraulic cylinders are oiled properly.

#### **6.5 How to keep the knives sharp:**

Although the knives are made of hardened metal, they can become blunt due to intensive use. Let your AP dealer sharpen the knives on time.

#### **6.6 Readjustment of the height of the tines:**

It is important that all tines are adjusted at the same height. This height of the tines can somewhat be readjusted to turn the conical adjustment bushes at the back side of the head tube.

### **7. OPTIONS:**

This chapter describes the safety and operating instructions of the several extra available equipment for the AP silage cutter, provided that they have not been described in previous chapters.

#### **7.1 Push-off system with folding base (HAN):**

A push-off system with folding base (HAN), significantly increases the number of use of the silage cutter. In folded state you have a nearly closed bucket which makes it possible to use your silage cutter for scooping up wet by-products and / or other products with little or no structure.

**WARNING:**                      **When the base is folded the push-off system does not work.  
Do not activate it!**

### 7.1.1 Collapsing of the base:

Please follow the next steps thoroughly and in chronological order:

- 1 Start position: De silage cutter is coupled, placed on a flat surface the push-off system is on the head tube, the cutting frame is closed, the engine of the tractor, wheel loader or telescopic loader is switched off and the parking brake is locked,)
- 2 Unlock the collapsed base,
- 3 Push down the base with the hand (see image 5),

**WARNING:** Never stand in the silage cutter if you push the base of the push-off device; the base is heavy and can cause heavy injuries!

- 4 Start the tractor, wheel loader or telescopic loader and lift the silage cutter  $\pm 20$  cm.
- 5 Open the cutting frame of the silage cutter,
- 6 Push the push-off device (with collapsed base) off the head tube; this far that the knife of the base falls over the tines of the silage cutter (see image 6),

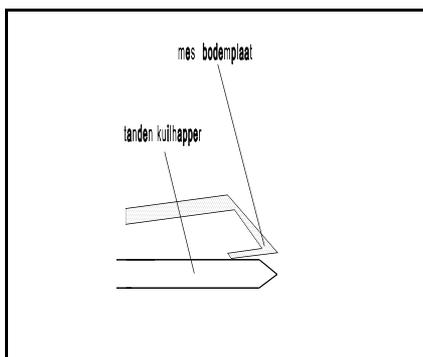


Image 5

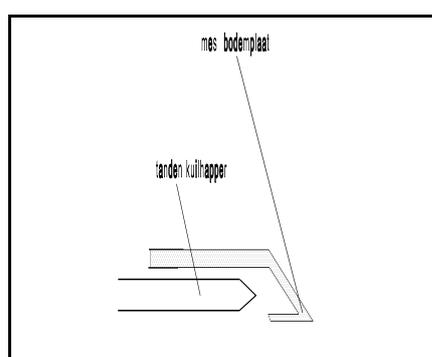


Image 6

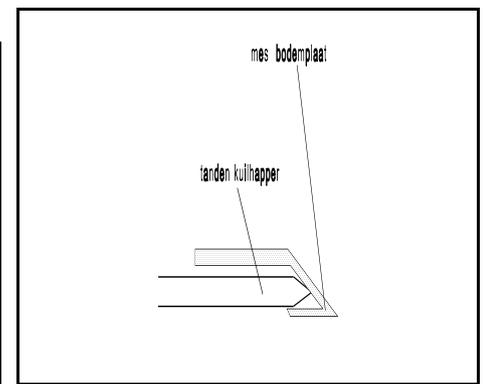


Image 7

- 7 Slide the push-off device back on the head tube; the tines of the silage cutter are now locked in the knife of the base (see image 7),
- 8 The silage cutter is now ready to be used.



### 7.1.2 *Folding of the base:*

Please follow the next steps thoroughly and chronological order.

- 1 Start position: The silage cutter is coupled, placed on a flat surface, the push-off system stands on the head tube and the cutting frame is closed,
- 2 Completely open the cutting frame,
- 3 Fully extend the push-off device,
- 4 Switch off the engine of the tractor, wheel loader or telescopic loader and lock the parking brake,
- 5 Lift the base with the hand in vertical position until the plate can be locked,

**WARNING:** Be careful during lifting the base. An unexpectedly base falling down can cause serious injuries!

- 6 Secure the lock,
- 7 Start the engine of the tractor, wheel loader or telescopic loader and push back the push-off system on the head tube,
- 8 Close the cutting frame,
- 9 The silage cutter and the push-off system is now ready for use.

### 7.2 **Removable inlay (IB):**

The inlay (IB) is an accessory that cannot be used on silage cutters without a push-off system. In principle it has the same function as the push-off system with folding base (HAN) and significantly increases the number of use of the silage cutter. The inlay makes it possible to use your silage cutter for scooping up wet by-products and / or other products with little or no structure.



### **7.2.1 Coupling of the inlay:**

#### **7.2.1 Coupling of the inlay to AP silage cutter with hydraulic push-off system:**

Please follow the next steps thoroughly and in chronological order:

- 1 Starting position: the AP silage cutter is coupled to the tractor front loader, wheel loader or telescopic loader,
- 2 Drive the tractor front loader, wheel loader or telescopic loader in front of the inlay,
- 3 Completely open the cutting frame,
- 4 Fully extend the hydraulic push-off system until the end of the tines,
- 5 Put the head tube on the ground and keep the tines a few centimetres above the ground,
- 6 Manoeuvre the AP silage cutter in front of the inlay, in such a way that the basket hooks of the hydraulic push-off system and those of the inlay fall into place. See images 4 and 5.
- 7 Lift the AP silage cutter  $\pm$  20 centimetre,
- 8 Pull the inlay with the help of the hydraulic push-off system in the AP silage cutter (image 6). The bucket is now automatically locked (image 7).

**WARNING:** the special coupling mechanism automatically takes care of attachment of the inlay to the AP silage cutter, but always check if the mechanism cannot be blocked by dirt / and or feed rests.

- 9 Check if the tines have slide in the knife of the inlay. If not, than follow the instructions concerning “uncoupling of the inlay” and start again with the procedure “coupling of the inlay”.
- 10 The AP silage cutter is ready for use.

#### **7.2.2 Uncoupling of the inlay with hydraulic push-off system:**

Please follow the next steps thoroughly and in chronological order:

- 1 Completely open the cutting frame,
- 2 Tilt the AP silage cutter a little bit forward,
- 3 Slide the hydraulic push-off system completely forward,



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- 4 Lower the AP silage cutter that much until the supports of the inlay lift the bucket of the hooks,
- 5 Drive backwards carefully; the inlay will now automatically be uncoupled,
- 6 Pull in the hydraulic push-off system,
- 7 Close the cutting frame.