HGB-031x

FH 1100
FH 1300
FH 1450

Forage harvester universal

Instruction manual

January 1985

PROTECTIVE MEASURES

Blower house/connecting piece **must not be opened,** while the machine is running.

All safety guards **must be placed correctly** and controlled, before the machine is started.

It is highly dangerous to stay in front of the machine and on the trailer, while the machine is running, as stones may fling ahead, and there may be stones in the material that is loaded in the trailer.

Lubrication and adjustments must only be made when the machine is not running.

Use only original -JF-spare parts.

Tighten up bolts and control the tension of the V-belts after 5 working hours.

The Instruction Manual should be read through before starting up.

TECHNICAL DATA:	1100	1300	1450
Working width	1.1 m	1.3 m	1.45 m
Number of flails	15	18	18
Power requirement	30 kW	37 kW	45 kW
Weight - machine	360 kg	420 kg	450 kg
Weight - lift suspension	150 kg	150 kg	150 kg
Unloading height - standard	3.05 m	3.15 m	3.15 m
Unloading height - extension	3.25 m	3.35 m	3.35 m
Height without swivel head	2.05 m	2.15 m	2.15 m
Length without suspension	1.90 m	1.90 m	1.90 m
Width without suspension	1.45 m	1.65 m	1.80 m

Tyre pressure:

Tyre:	5.00 x 8	2.5 bar (35 lbs)
	6.00 x 9	2.0 bar (28 lbs)

INSTRUCTION MANUAL
FOR
FORAGE HARVESTER

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PREPARATION OF THE MACHINE

In oorder to keep the transport costs as low as possible, the forage harvester is delivered disassembled, and it must be assembled and mounted according to the following instructions:

1. The protective plastic and the parts fastened with wire must be removed from the basic machine.

2. Mounting of swivel head and swivel head regulation.

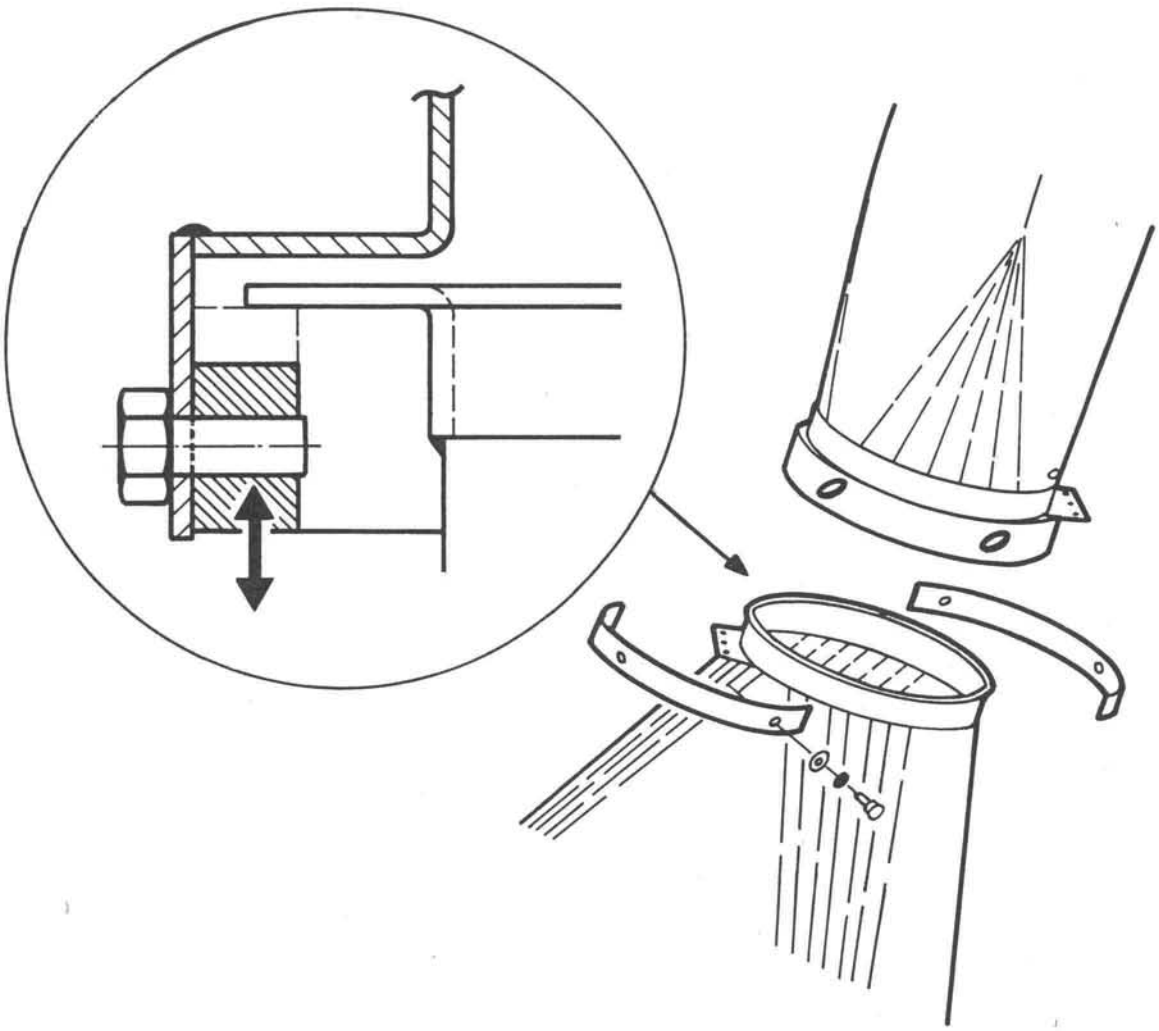


Fig. 1

1. The swivel head is mounted on the connecting piece.

2. Then it is fastened with the 2 hoops placed under the ring of the swivel head and is clamped with 3 bolts.

   The bolts are lead through oblong slanting holes. By pressing the hoops clockwise, a possible wobble between swivel head and connecting piece can be removed.

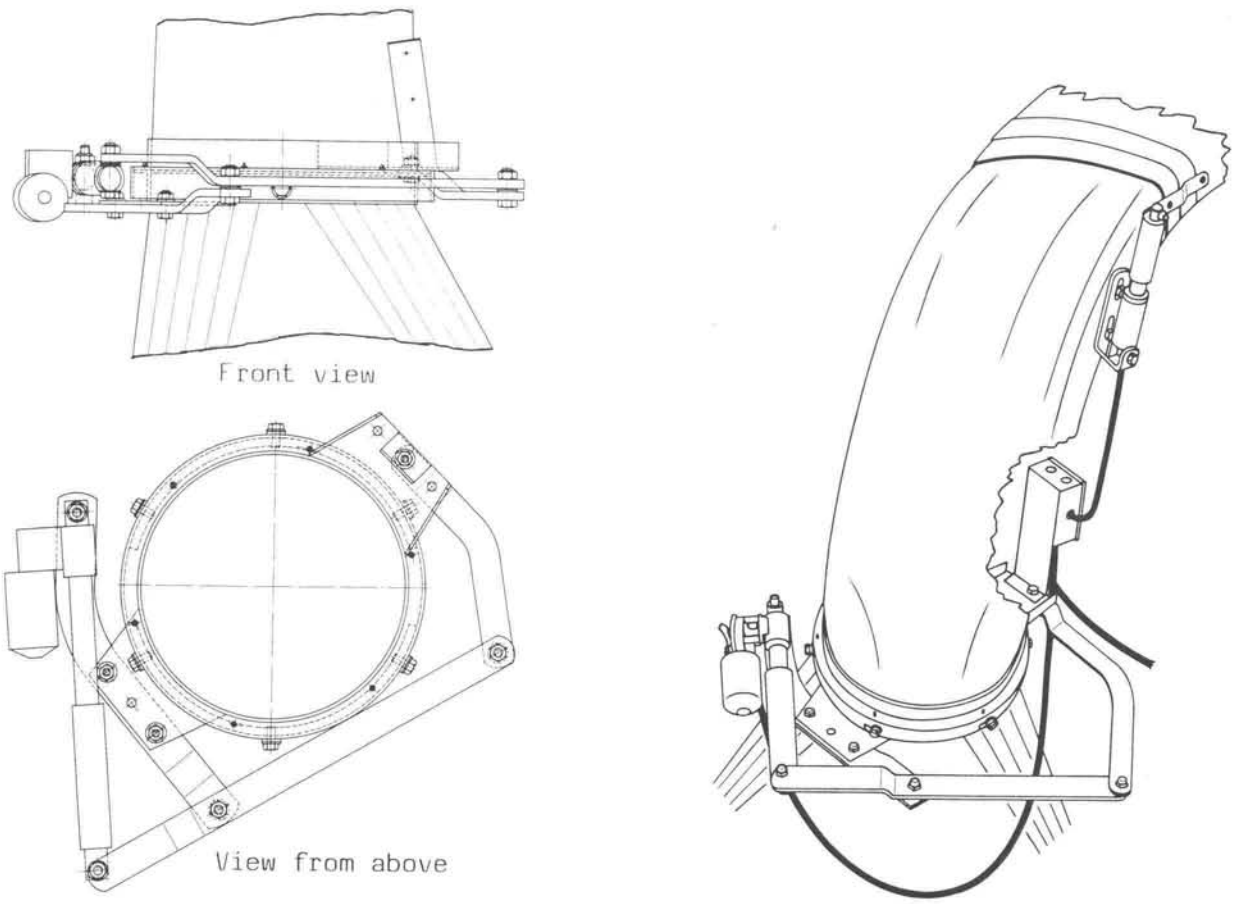


Fig. 2 Swivel head with electric equipment

Fig. 3 Swivel head with cable control

3. Mounting of drawbar A, screen B and stabilization wheel C

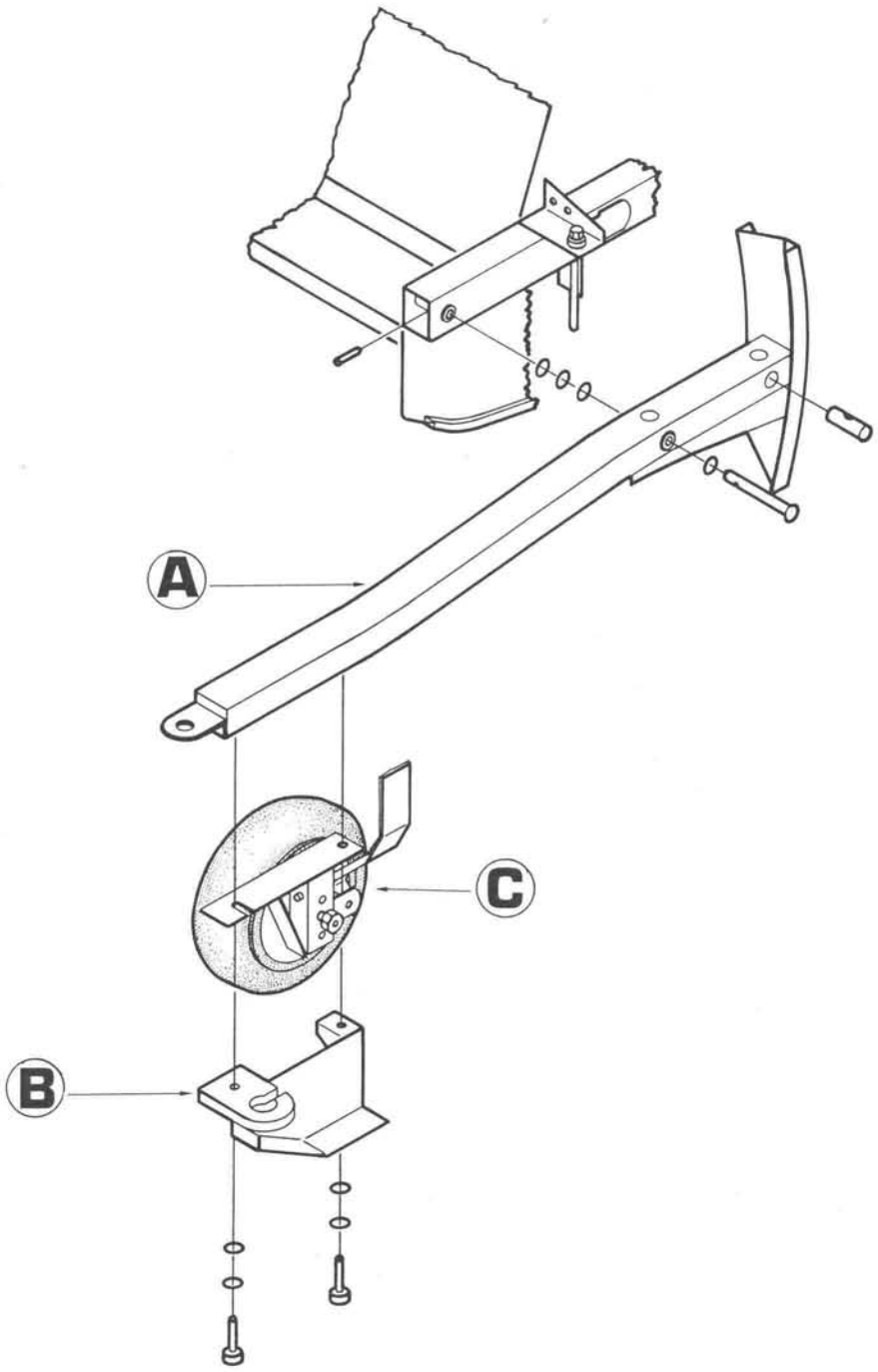


Fig. 4

4. Power take-off shaft from machine to bevel gears is mounted on the pulley of the tilting bearing, and is tipped up into the holder. The security chain of the shaft is fastened in the eye of the bottom guard.

5. Lift suspension

A. Wire **1** is lead through the front arm **2**.

B. Front arm **2** is mounted on L-hoop **3**.

C. The wire is fastened in pawl **4** and adjusted to the correct length - 11 mm. **The wire must be tight** so that the bottom pawl can be pulled completely.

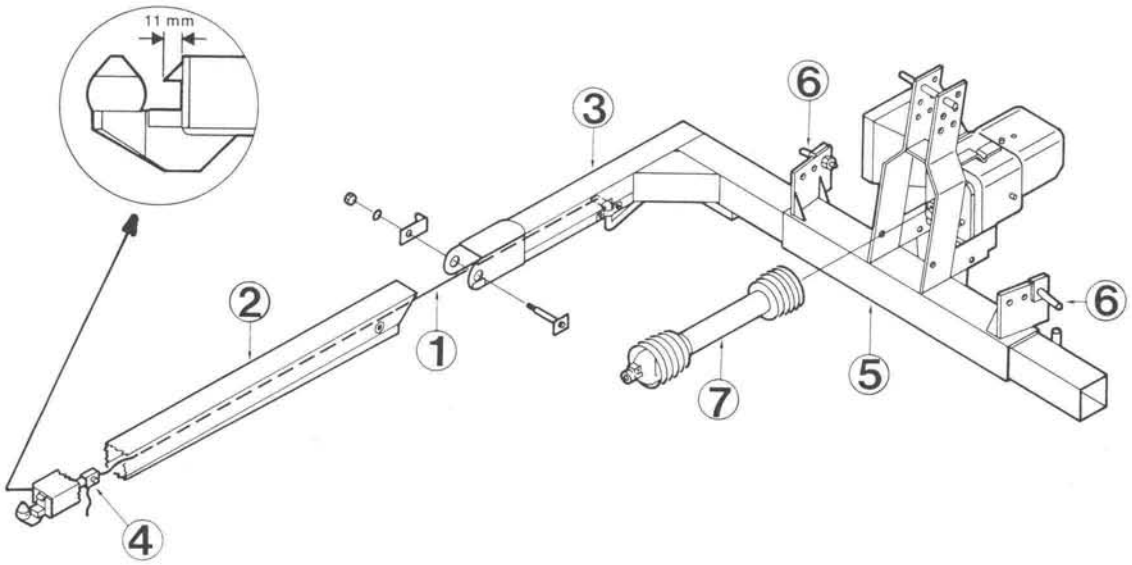


Fig. 5

D. Suspension dowels **6** are placed so that the forage harvester will be as close to the tractor as possible. The rear hole when using long drawbars. The front hole when using short drawbars.

E. The power take-off shaft **7** is adjusted in length and mounted. When shortening there **must** be cut off equally much from all 4 tubes.

F. L-hoop **3** is put in lift suspension **5**, and the suspension hoop is mounted on the tractor.

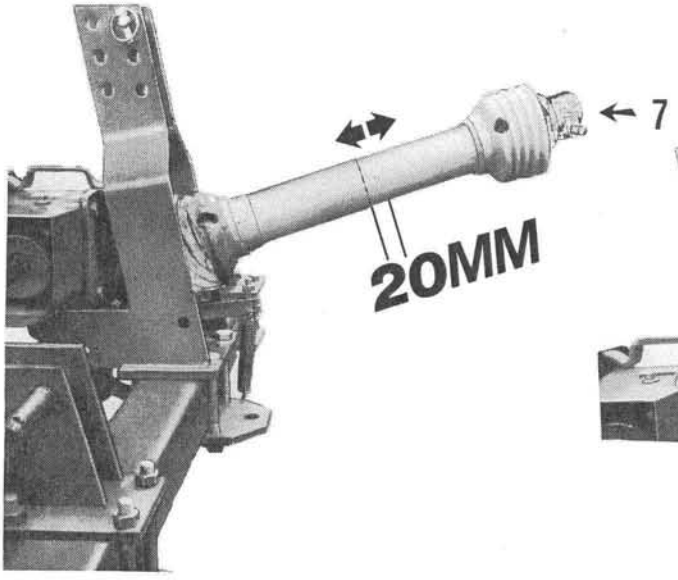


Fig. 6

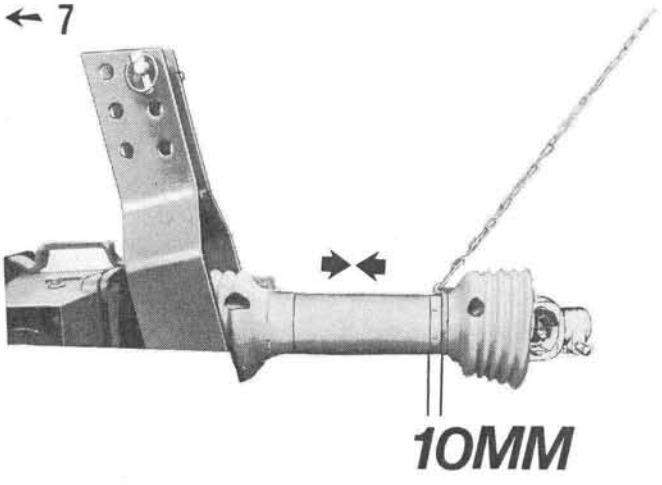


Fig. 7

The protecting tube of the power take-off shaft must have at least 20 mm mesh (and with that the sectional tubes 70 mm), when the suspension hoops have been lowered, but they must never be mounted closer than the tubes have approx. 10 mm clearance in the closest assembled position.

CONNECTION AND DISCONNECTION OF TRAILER

The trailer is connected with hitch or draw eye, or with a high-placed trailer coupling (West Germany).

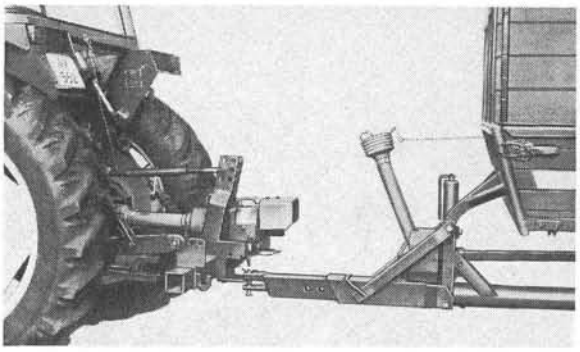


Fig. 8

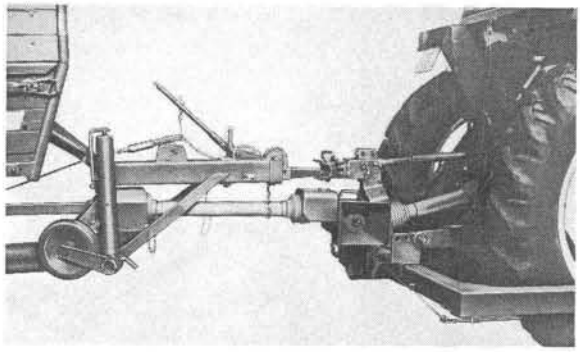


Fig. 9

When connecting with hitch, the suspension hoop is lowered so that the hitch hook just can get under the hitch eye of the trailer. The tractor is backed towards the trailer, and the suspension hook is raised. When the hook is placed in the draw eye, the trailer is connected.

When disconnecting, the wire for the hitch lock is pulled, and the suspension hoop is lowered, until the support of the trailer drawbar is standing on the ground.

Drive forward with tractor and forage harvester.

Fig. 10

CONNECTION AND DISCONNECTION OF FORAGE HARVESTER

When connecting, the suspension hoop is lowered, and the tractor is driven slantingly towards the machine, until the suspension ball hits in the corner of the screen. Then the suspension is raised, and the machine is connected in the front point.

Then drive a little forward, and the tractor is straightened out, until the pawl lock on the outside of the suspension is in mesh with the machine.

The power take-off shaft is disconnected from the holder and is connected to the bevel gear shaft. The handle for swivel head regulation is fastened in the driver's cab of the tractor, and the machine is ready for use.

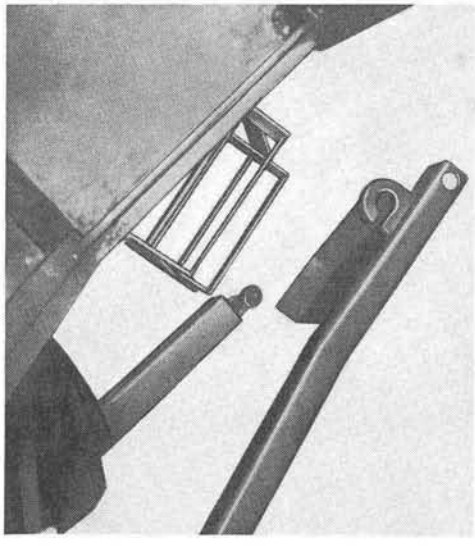


Fig. 11

Disconnection is made by removing the swivel head regulation system and the power take-off shaft from the tractor. Then the suspension hoop is lowered, until the machine is standing on the ground. Now the lock pawl in the front connection point can be released by pulling the wire. When the suspension hoop is raised again at the same time as the wire is pulled, the machine is released from the suspension hoop, and the tractor can now drive away from the machine. If the pawl cannot get free, the wire length must be controlled and maybe adjusted according to Fig. 5 item 4. When driving away, it should be secured that the trailer goes clear of forage harvester and swivel head regulation.

Please note:

The machine must be lowered to the ground, before the lock pawl can be released.

ADJUSTMENT OF MACHINE

The suspension hoop must be adjusted so that it is placed horizontally when running. It must be aimed at keeping the power take-off shaft horizontal and with as small angles as possible when running. If the machine is raised very much, the power take-off shaft should be disconnected.

Stubble height: 0 - 100 mm

1. The top rod is mounted in the upper or the middle holes in the top rod handle.
2. Wheels are mounted in the lower holes.
3. Suspension hoop/power take-off shaft are kept horizontal, and a rough adjustment of stubble height is made by using adjusting screw **A**.

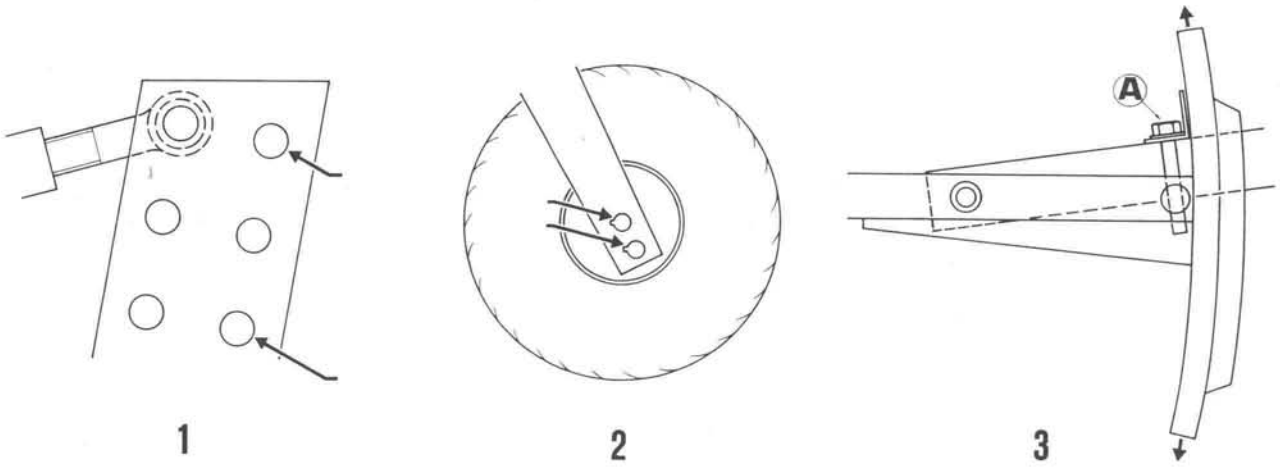


Fig. 12

Stubble height: over 100 mm

1. The top rod is mounted in the lower holes in the top rod handle.
2. Wheels are mounted in the lower holes.
3. Suspension hoop/power take-off shaft are kept horizontal, and a rough adjustment of stubble height is made by using adjusting screw .
4. Fine adjustment of stubble height is made by raising and lowering suspension hoop.

When driving with stabilization wheels, holes 1-2 are used at stubble height from 0-100 mm, and hole 3 at stubble height over 100 mm.

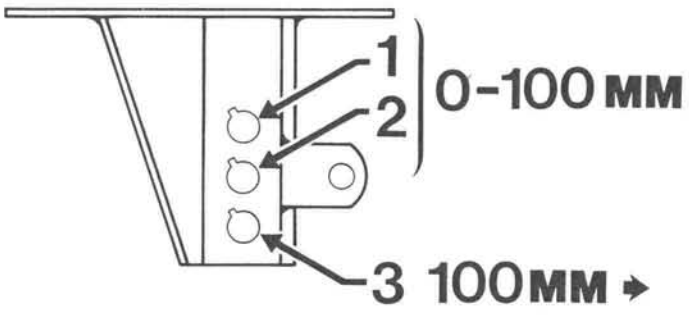


Fig. 13

Gauge/driving in row crops

When driving in row crops, wheels and suspension hoop can be moved continuously variably sideways. However, there must be a distance of at least 6 cm between hoop and tractor wheels.

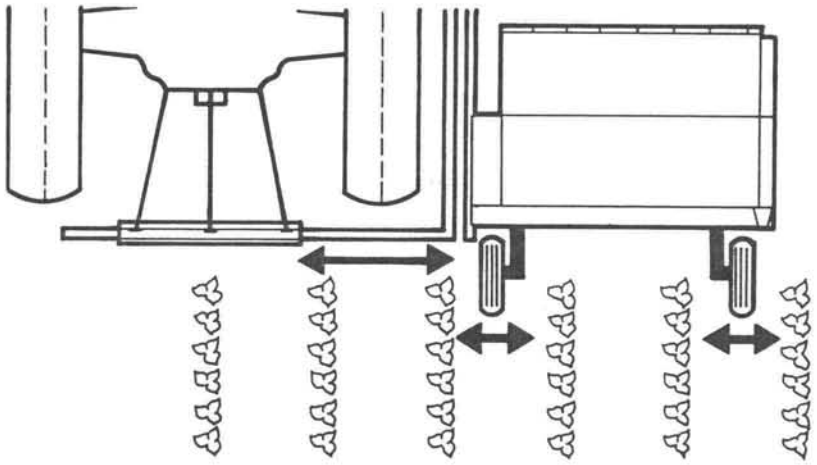


Fig. 14

Cutting and driving

The length of the cut material can be varied by:

1. Shearbar distance.
2. Rotor speed.
3. Driving speed.

Shearbar distance

Fig. 15 Long cutting length Short cutting length

Rotor speed:

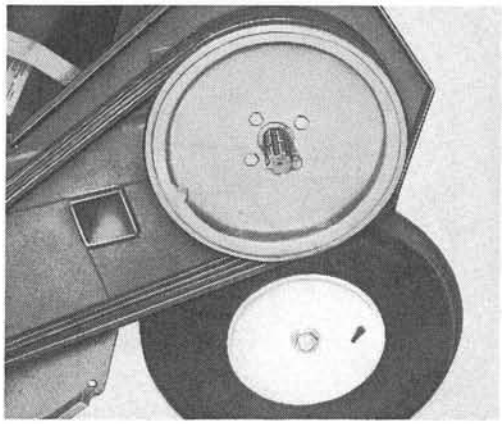


Fig. 16

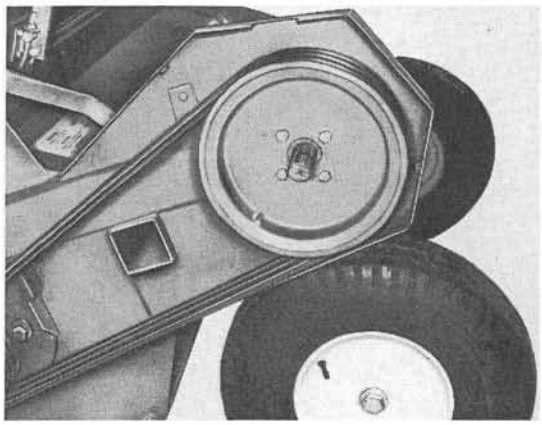


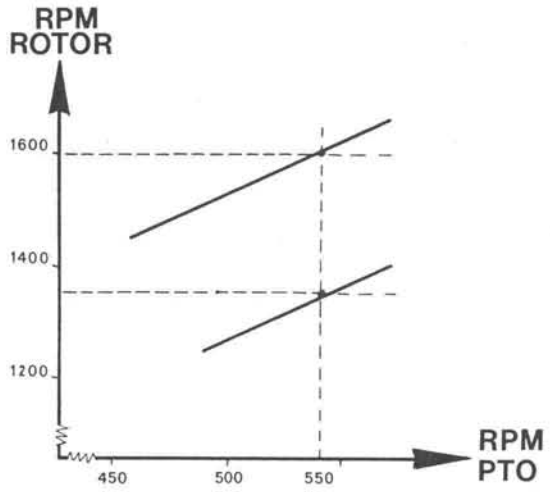
Fig. 17

The forage harvester is constructed for a standard speed of 540 rpm on the power take-off.

Higher rpm = finer cut

Lower rpm = rougher cut

The number of revolutions can also be reduced by replacing the pinion disc on the tilting bearing (330 mm) by a V-belt pulley 2122-083x (280 mm), e.g. when topping beets.



Driving speed:

The speed must be adapted to the art and quality of the crop. When increasing drive speed, the cutting length will be increased and vice versa.

TRANSPORT

It is easier to transport the machine, when the outer lifting hoop on the drawbar is connected to the side dowel of the suspension hoop.

Fig. 18

MAINTENANCE

Lubrication:

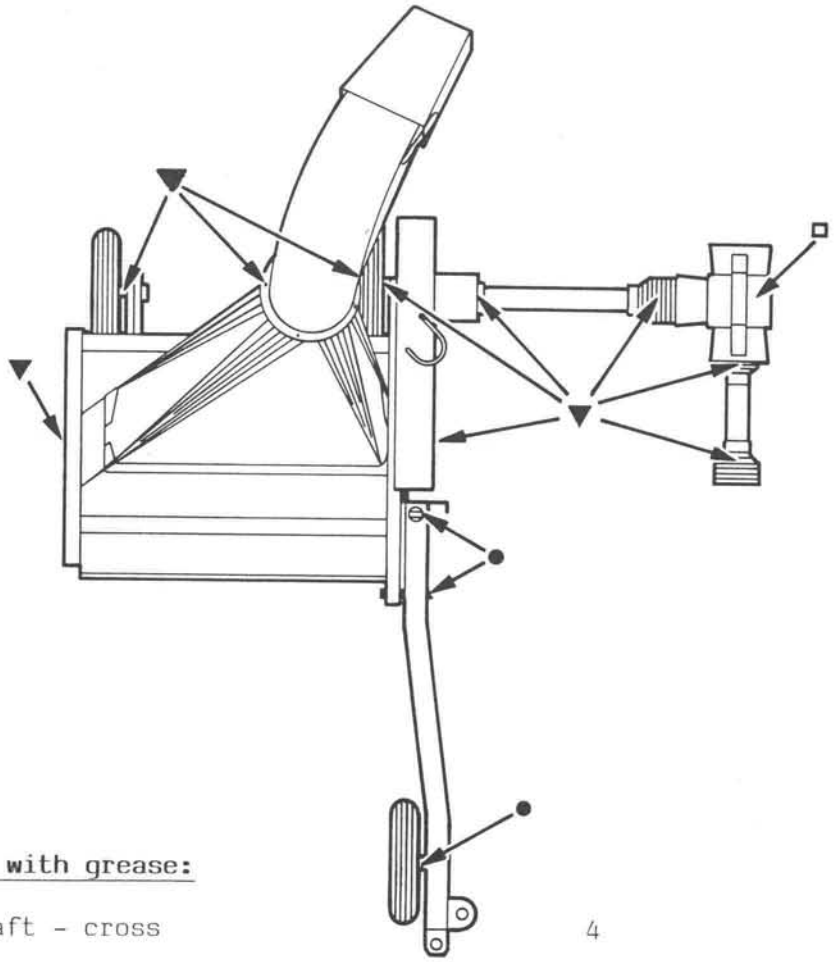


Fig. 19

Once-a-day lubrication with grease:

	Power take-off shaft - cross	4
▼	Power take-off shaft - protection tube	4
	Swivel rim	4
	Tilting bearing	1
	Rotor	2

Twice-a-year lubrication with grease:

▼	Wheels	2 (3)
	Power take-off shaft (free wheeling)	1

Once-a-day lubrication with oil:

●	Drawbar - tilting point	1
	Front supporting wheel (brake)	1

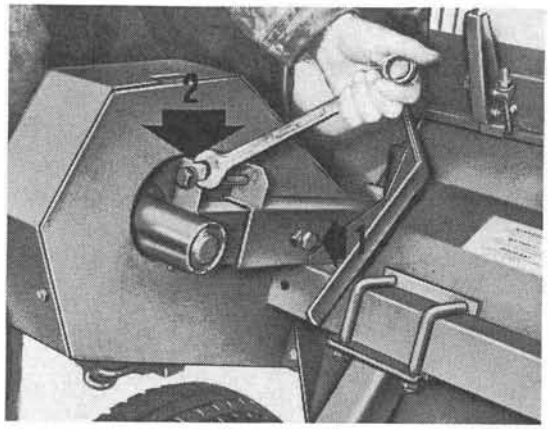
□ **Oil in bevel gears** is to be renewed after the first 10 working hours, and after that every 100 hours, however, at least once a year.

Oil type Shell Spirax HD 85 W/140.

V-belt tension

The V-belts are tightened by slackening headless screw **1** and fastening the V-belts with screw **2**, until they have a clearance of a couple of cm in the middle. After adjustment screw **1** is fastened again.

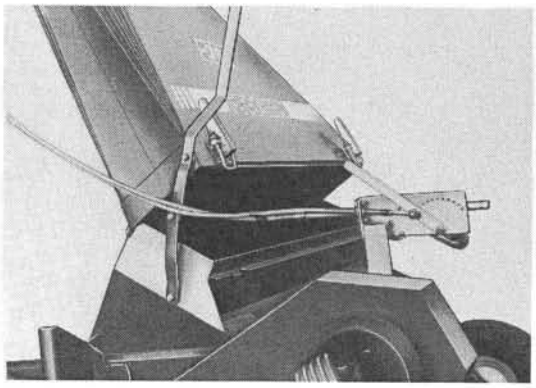
Fig. 20



Tyre pressure:

500 x 8 = 35 lbs - 2.5 bar

600 x 9 = 28 lbs - 2.0 bar



Control of blades and blade drum

The connecting piece of the forage harvester is provided with a stop- and hold-handle on the left to make easier the opening of the forage harvester for inspection of the blades and blade drum. The 2 lock fittings of the machine are opened, and the connecting piece can easily be tilted forwards by means of the handle, which also functions as a stop for the connecting piece in open position.

Fig. 21

Blades can be grinded up to 12-15 mm.

Please note:

Well grinded blades give a reduced power consumption and a better throw. At length variation over 5 mm the rotor may get out of balance. The blades should be grinded to equal length or replaced.

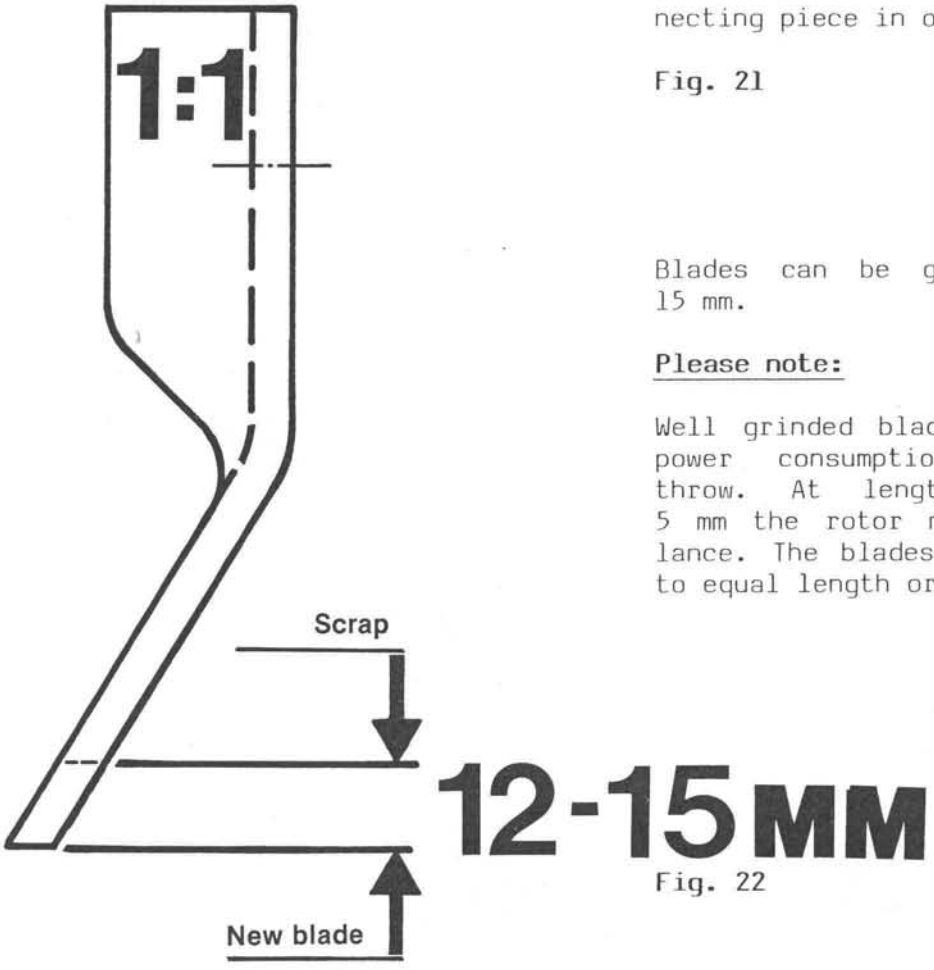


Fig. 22

Storage during winter

The machine should be cleaned and lubricated in non-corrosive oil before winter storage. Lubricate the bearings. Tilting bearing is to be cleaned and lubricated carefully before the next season.

When cleaning with a high-pressure cleaner it should be avoided to spray direct on the bearings. Lubricate all bearings carefully after cleaning with the high-pressure cleaner.

ADDITIONAL EQUIPMENT

V-belt pulley for beet harvest.

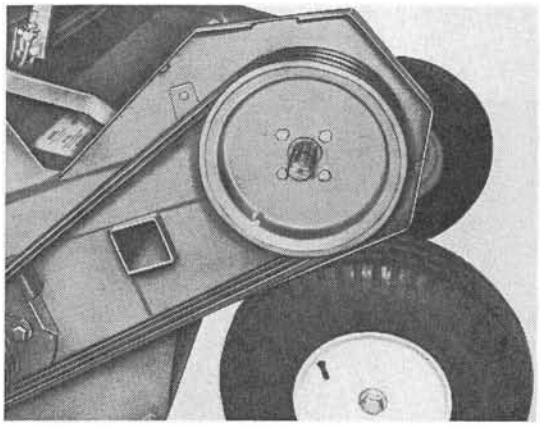


Fig. 23

Regulation systems for swivel head

Fig. 24 Electric control of swivel head.

Fig. 25 Manual control of swivel head.

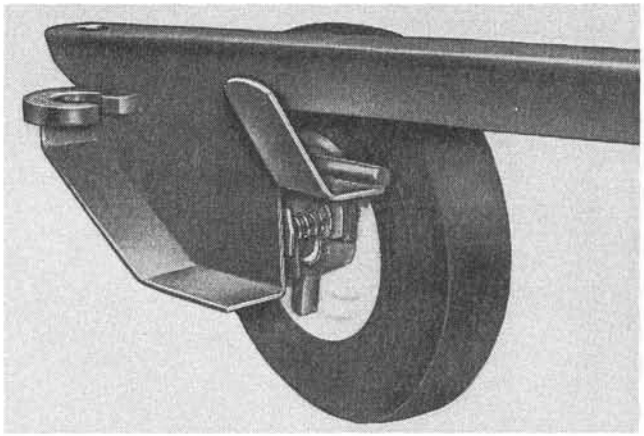


Fig. 26

Stabilization wheel with brake.

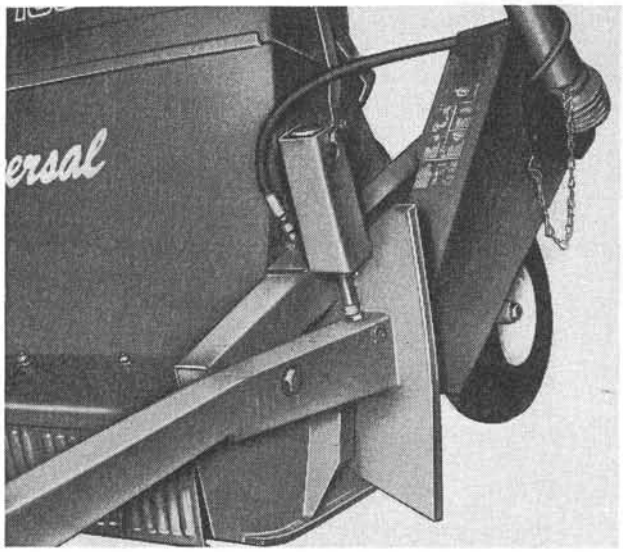


Fig. 27

Hydraulic height regulation equipment for driving with stabilization wheel.

Fig. 28

Extension of swivel head.

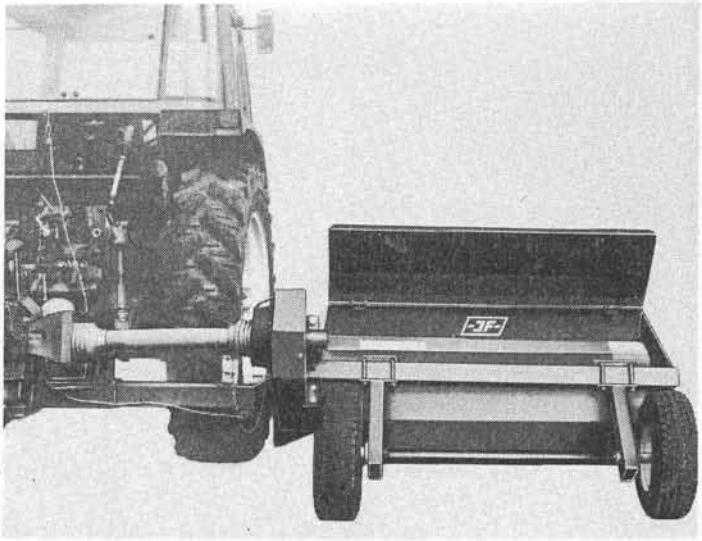


Fig. 29

Straw hood.

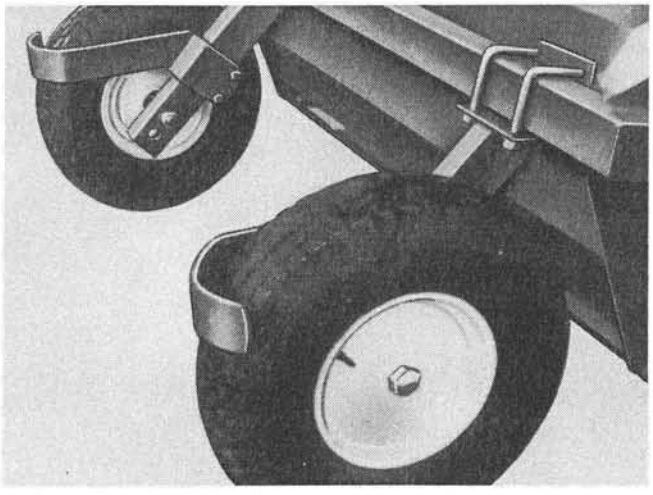
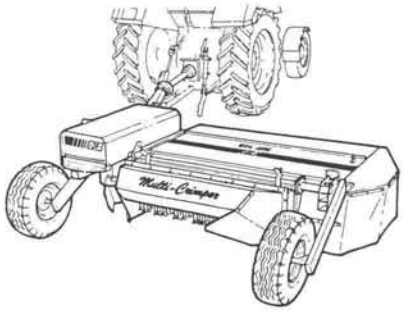
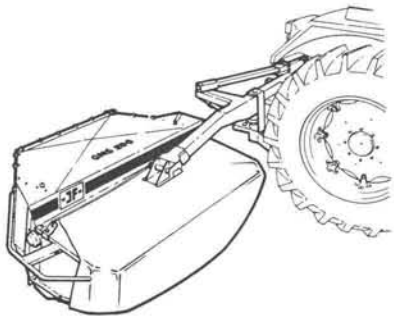
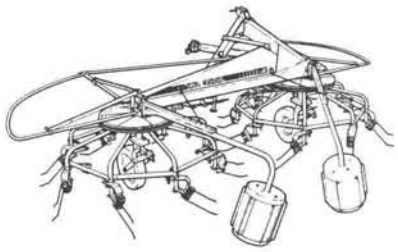


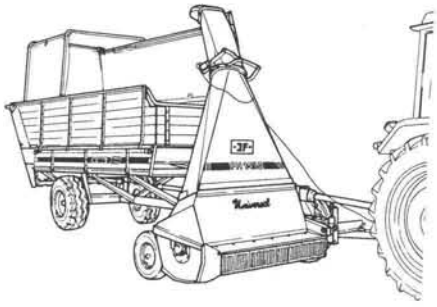
Fig. 30 Wheel scraper

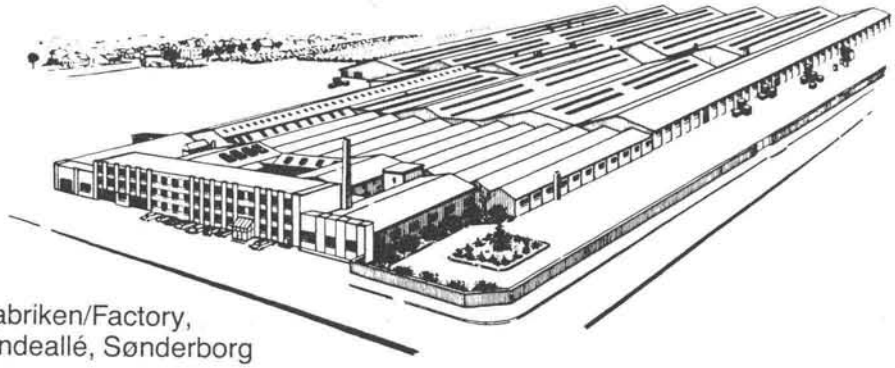
Et omfattende maskinprogram
Ein Lieferprogramm mit Zukunft
Progress In Farm Machinery
Un programme de machines etendu











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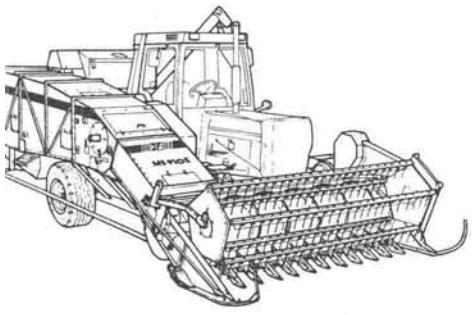

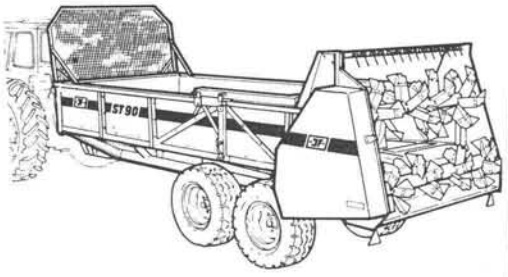

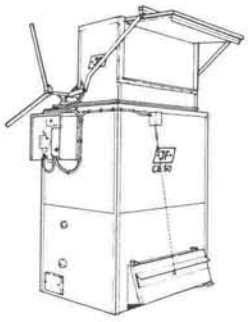

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