

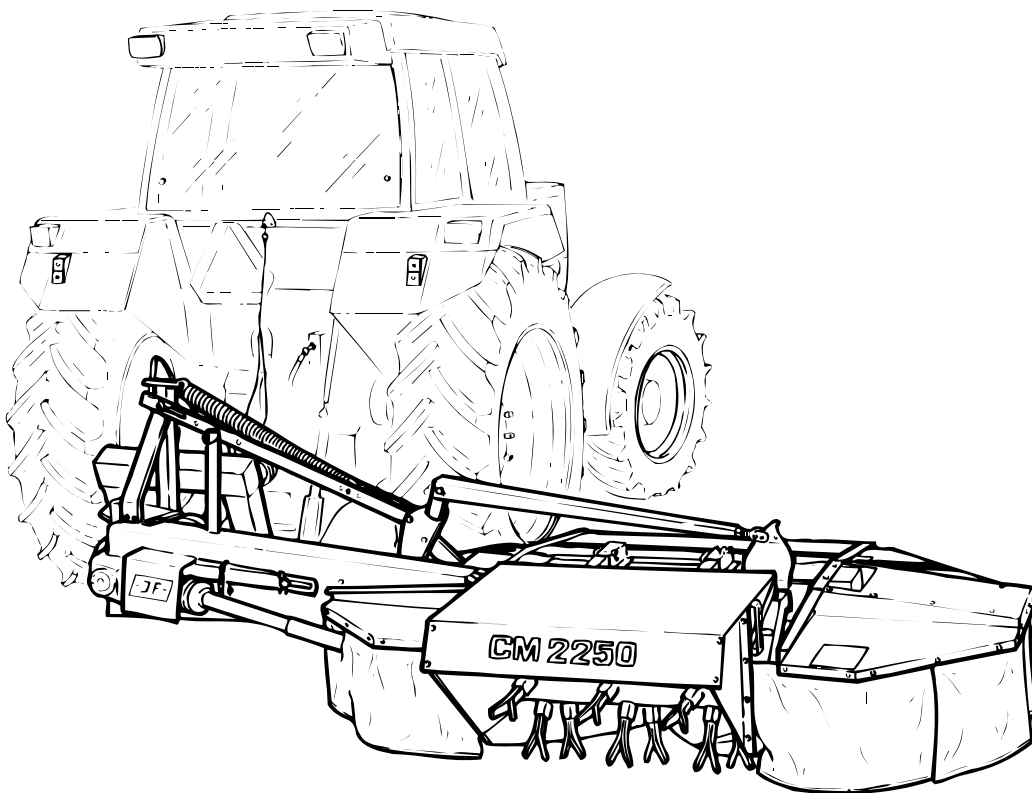


CM 1900  
CM 2250  
CM 225

# Drum Mower

---

## Instruction Manual





## **EC Declaration of Conformity**

### **Manufacturer:**

JF-Fabriken - J.Freudendahl A/S  
DK 6400 SØNDERBORG DANMARK  
Tel. +45-74125252

### **Hereby declare that:**

***Machine type:***

CM 1900  
CM 2250  
CM 225

- a: *was manufactured in conformity with the provisions in the COUNCIL DIRECTIV of 14 June 1989 on mutual approximation of the laws of the Member States on the safety of machines (89/392/EEC as amended by directive 91/368/EEC, 93/44/EEC, 93/68/EEC) with special reference to Annex 1 of the Directive on essential safety and health requirements in relation to the construction and manufacture of machines.*
- b: *was manufactured in conformity with requirements in DS/EN 745:1999*

**Sønderborg, d.**

2001-04-17

Jørn Freudendahl  
Responsible for construction and manufacturing

# INSTRUCTION MANUAL FOR DRUM MOWER

<b>TECHNICAL DATA:</b>	<b>CM 1900</b>	<b>CM 2250</b>	<b>CM 225</b>
Working width	1.90 m	2.25 m	2.25 m
Area capacity up to	2.0 ha/h	2.4 ha/h	2.4 ha/h
Power requirement at 540 RPM from	35 kW/48HP	36 kW/50 HP	36 kW/50 HP
Number of rotors	2	2	2
Number of blades (easy to replace)	2 x 3	2 x 4	2 x 4
Blade speed	82 m/sec	83 m/sec	83 m/sec
Variable stubble height adjustment	Yes	Yes	Yes
Swath width	0.90 m	0.90 m	0.90 m
Weight	550 kg	580 kg	580 kg
Transport width	Within the width of most tractors		
Safety release	Standard	Standard	Standard
Turnable guide shoes	Standard	Standard	Standard
PTO-shaft with free-wheel	Standard	Standard	Standard
Safety canvas, better than norm, 1000 g/m <sup>2</sup>	Standard	Standard	Standard
Hydraulic lifting (for small tractors)	Extra	Extra	-----

## CONTENTS:

## PAGE:

Mounting on tractor	5
Driving in the field	7
Safety release	7
Reajustment for transportposition	7
Continuously variable stubble height adjustment	9
Replacement of blades	9
Manual adjustment of stubble height	9
Blades for short stubble	9
Conditioner (extra equipment)	11
Dismounting of conditioner	11
Lubrication	11
Mounting instructions	13
Mounting of conditioner	15
Hydraulic lift (extra equipment)	17

## IMPORTANT !

**Retighten the bolts of your new machine after a few hours work.**

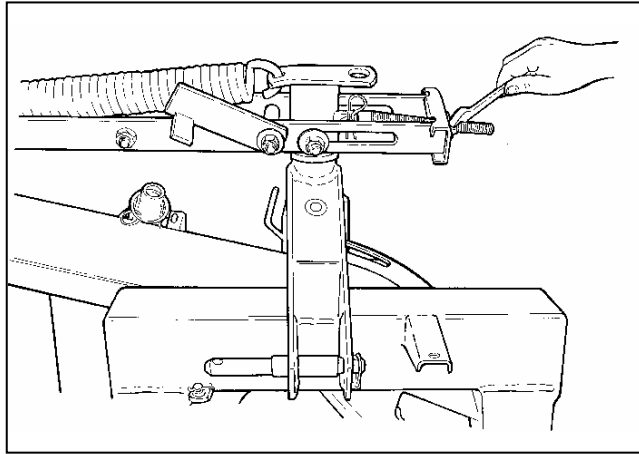


Fig. 1

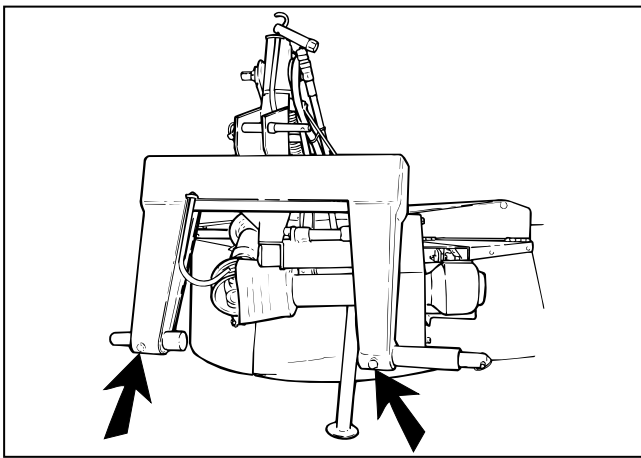


Fig. 2

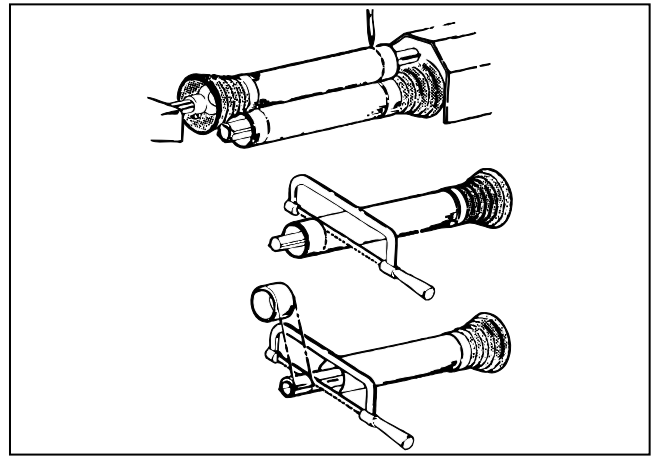


Fig. 3

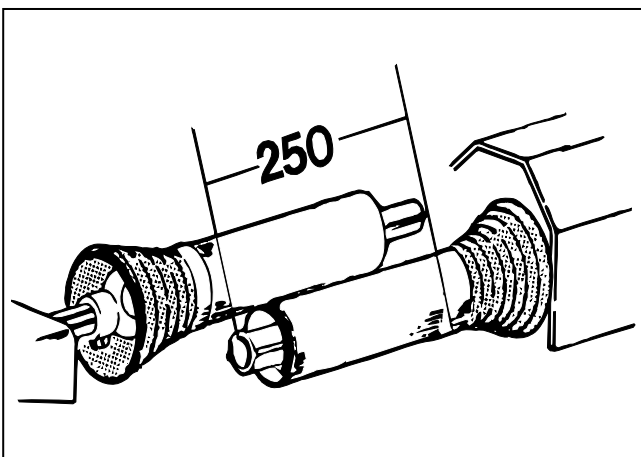


Fig. 4

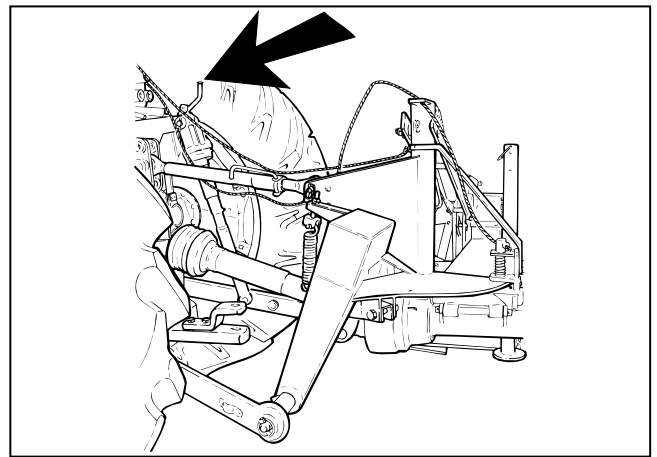


Fig. 5

## **MOUNTING ON TRACTOR**

### **First mounting**

**FIG. 1**        The spring is tightened with the supplied clamp (the tool packet).  
Activate the yellow parking lock.

**FIG. 2**        The tractor's lift arms are connected to the dowels on the top frame. The dowels can be adjusted in accordance with the tractor width by loosening the lock bolts. Then the top rod is mounted.

Lock the lift arms of the tractor to prevent them from moving sideways, so that the machine has exactly the full swath width.

**Raise the jack.**

The drum mower is mounted in the 3-point linkage of the tractor. It is raised and lowered by the lift.

The top rod is mounted as parallel as possible to the lift arms in order to avoid that the angle of inclination is changed when the machine is raised by the tractor lift.

**FIG. 3**        **Check the length of the PTO-shaft.**

**FIG. 4**        Mount the PTO-shaft on the PTO of the tractor and check that the shaft has a mesh of at least 200 mm in working position. Also check that it has freedom of movement in both raised and lowered position. **All 4 tubes must be shortened equally much.**

After shortening the tube and shaft ends are rounded by a file and cleaned. Then the tubes are lubricated.

**Fig. 5**        The spindle for the right lift arm is adjusted so that the top frame hangs straight.  
The yellow parking lock is disconnected when the machine is mounted on the tractor. **Raise to loosen it.**

When disconnecting the machine **you must activate the parking lock and lower the jack.**

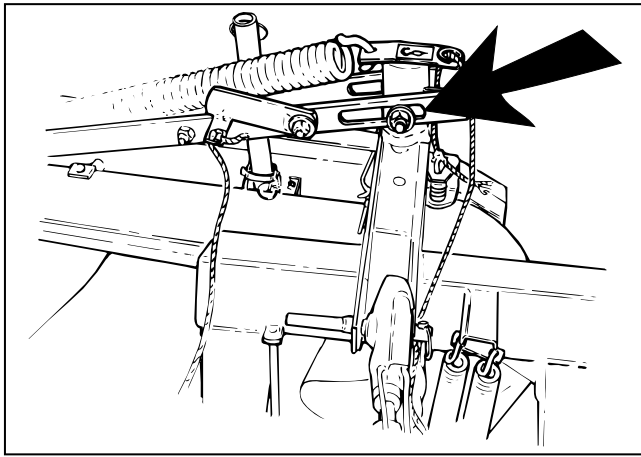


Fig. 6

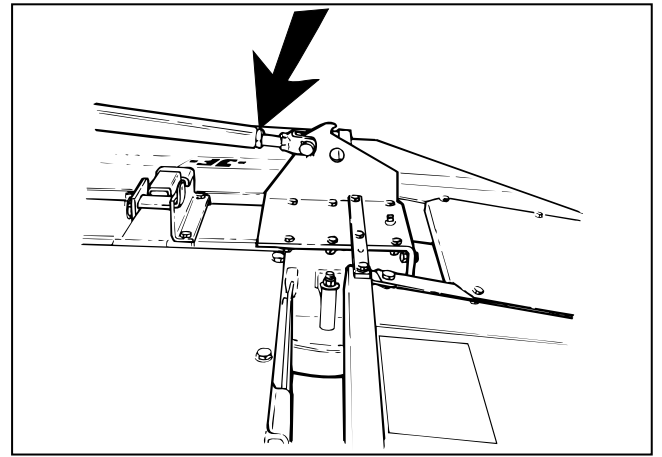


Fig. 7

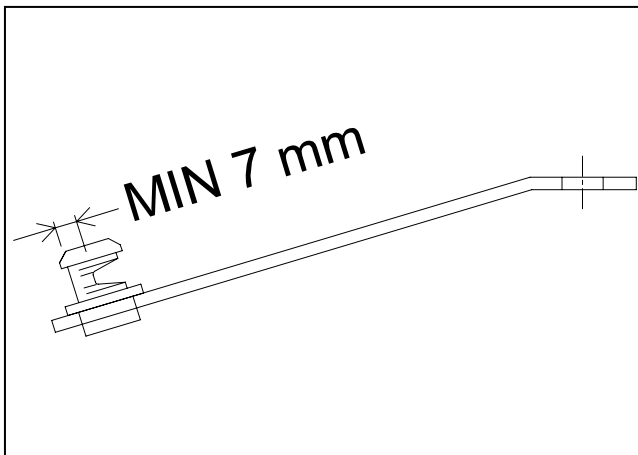


Fig. 8

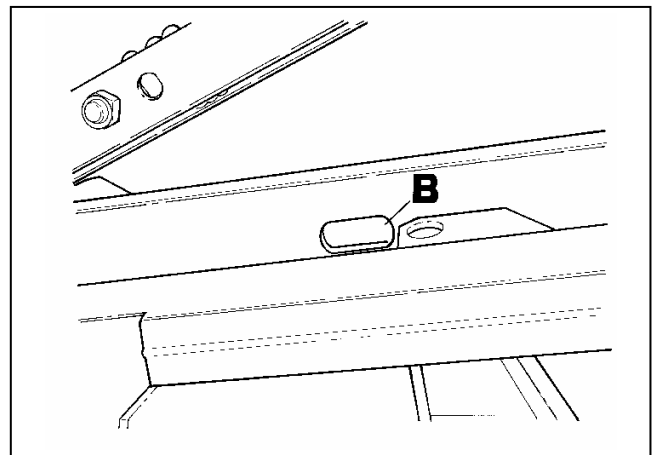


Fig. 9

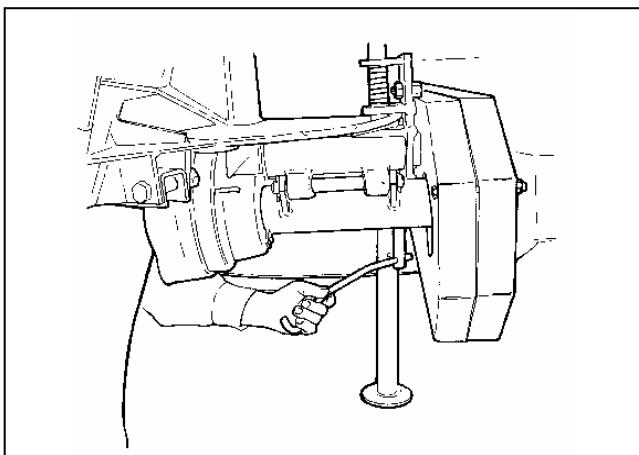


Fig. 10

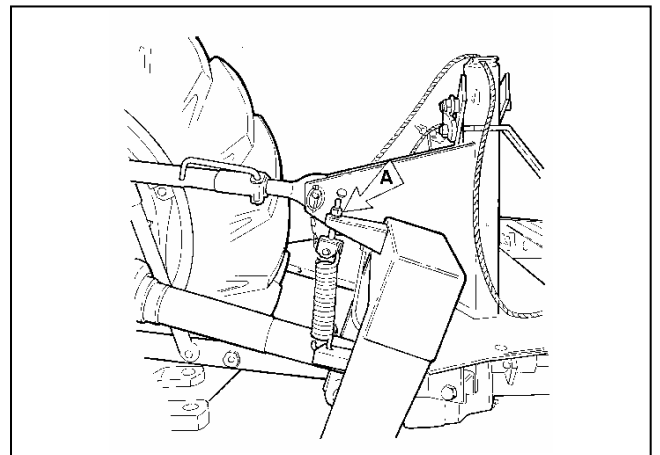


Fig. 11

## **DRIVING IN THE FIELD**

When the machine is in working position the length of the top rod is adjusted so that the guide shoes are horizontal or with a slight forward tilt. A backward tilt cannot be recommended as the machine will then recut.

**Bring the machine to full number of revolutions - 540 PRM before driving in the crop.**

**FIG. 6** The lift arms are raised so that there is an approx. 1 cm long hole above the dowel.

Adjust the lift stop so that this height is easily found again.

**REMEMBER - that the yellow parking lock must be disconnected.**

**FIG. 7** When driving in the field the length of the connection rod **A** is adjusted. So that the outer rotor is lifted a little higher than the inner when the machine is raised by the lift.

The machine must only be raised shortly when it is working.

At regular intervals it is important to check:

**FIG. 8** If the blade holders are worn. If the blade holder rivet is worn half-way through the blade holder must be replaced.

If the blade can move freely.

**FIG. 9** If the V-belts are tight enough. **Hole B.**

**FIG. 10** The belts are tightened with the supplied tool.

## **SAFETY RELEASE**

**FIG. 11** The drum mower is provided with a safety release allowing the boom to swing backwards when the front pressure becomes too heavy, e.g. when the machine drives against firm objects such as a tree, a pole, earthfast stones etc. If the safety release has been activated it is brought back into mesh in working position by driving backwards with a strong jerk. If the machine releases too easily while driving the spring is tightened a little more **A**.

**Do not compress the spring so much that the release is blocked.**

## **READJUSTMENT TO TRANSPORT POSITION**

1. The machine is lowered a little more than in working position.
2. Wait until the rotors have stopped rotating.
3. Pull the string, drive forward and at the same time turn the steering wheel sharply to the left.
4. Let go of the string and drive on until dowel is engaged.
5. Lift the machine. Make sure that no persons are near machine and tractor.
6. **Test if the dowel is correctly engaged before driving on public roads**

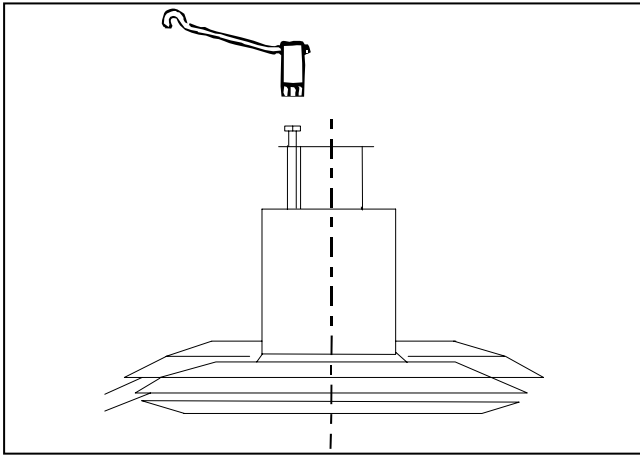


Fig. 12

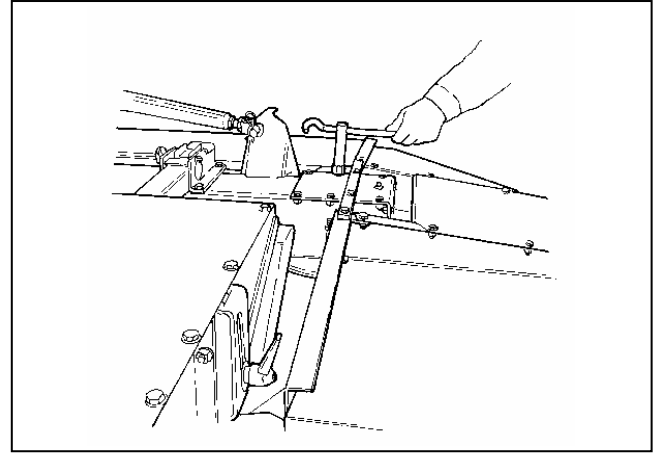


Fig. 13

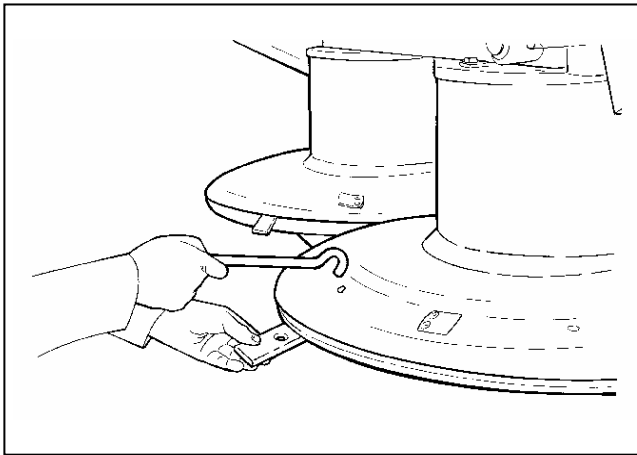


Fig. 14

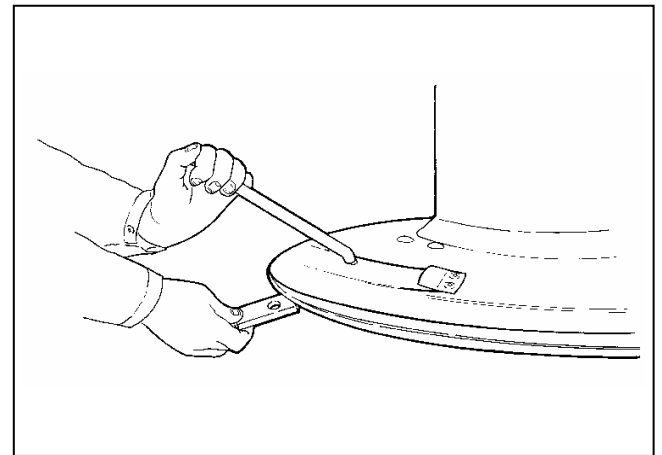


Fig. 15

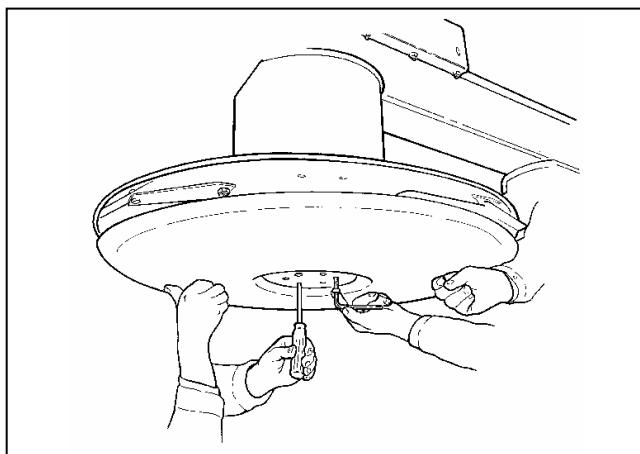


Fig. 16

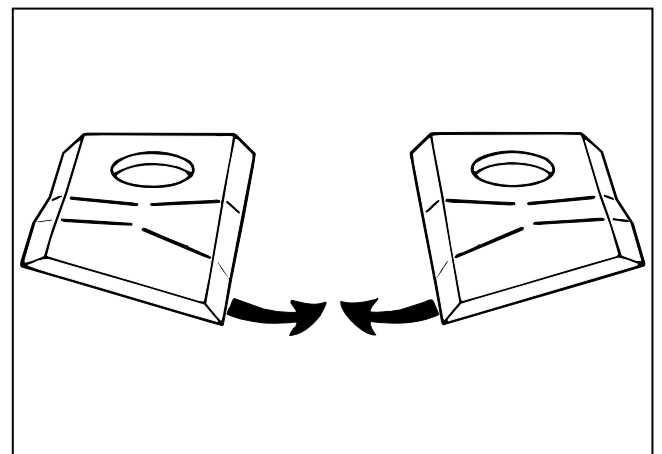


Fig. 17



### CONTINUOUSLY VARIABLE ADJUSTMENT OF STUBBLE HEIGHT (CM1900/CM2250)

**FIG. 12** The machine has continuously variable adjustment of stubble height and the height can be adjusted to 30 mm. This can be done by turning the spindles with the tool delivered with the machine.

**FIG. 13**      **Adjust to the same stubble height on both rotors.**

## REPLACEMENT OF BLADES

**FIG. 14** The supplied tool is placed through the hole in the drum plate and turned halfway round, and with a pressure the blade is released.

**FIG. 15**      **Insert a new original JF-blade.**

In order to secure the balance of the drum, the blades must be replaced in sets.

If strong vibrations occur for no apparent reason it may be due to accumulation of dirt. Check the rotor plates at regular intervals and clean them carefully, if required, i.e. you remove the guide shoes to have access to the cavity under the rotors. Especially when starting work after winter storage some dirt may loosen and the remaining dirt may cause the rotors to get off balance resulting in vigorous vibrations.

## **MANUAL ADJUSTMENT OF STUBBLE HEIGHT**

**FIG. 16** Some CM 1900 has from the factory been provided with either low or high guide shoes. The stubble height can be adjusted with a 10 mm intermediate washer which is supplied with the machine and placed between the rotor and the guide shoe.  
The guide shoe can be dismantled by removing 3 pcs Allen screws.

## BLADE FOR SHORT STUBBLE

**FIG. 17** To be used in crops where shorter stubble is required.

Right blade                      Order no. 1380-0023

Left blade                      Order no. 1380-0024

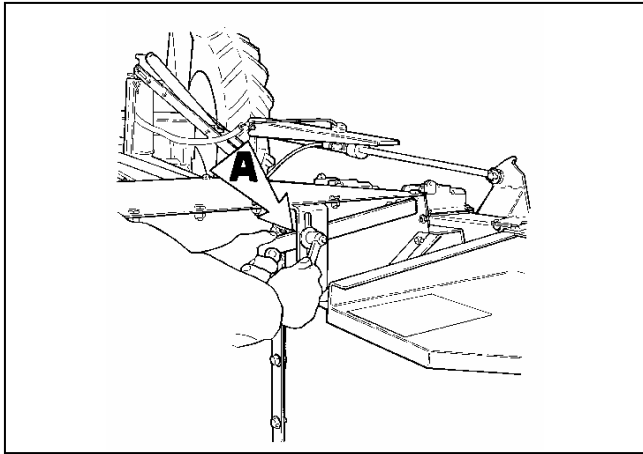


Fig. 18

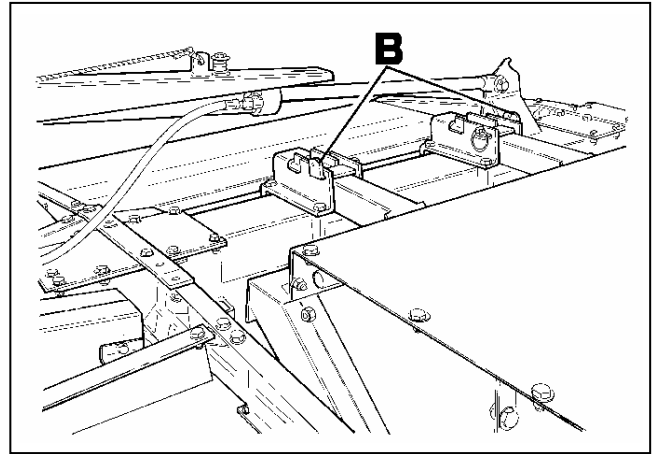


Fig. 19

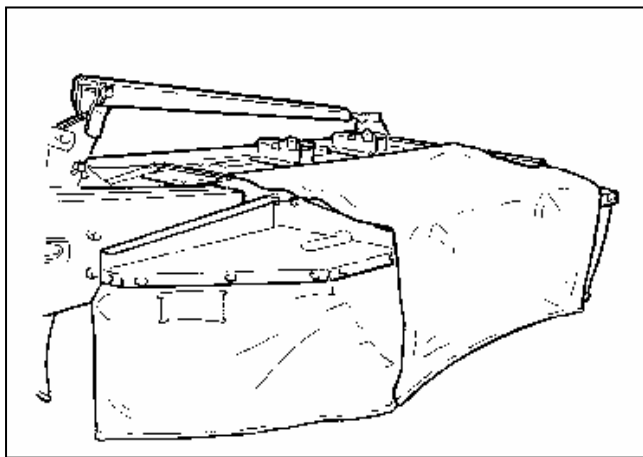


Fig. 20

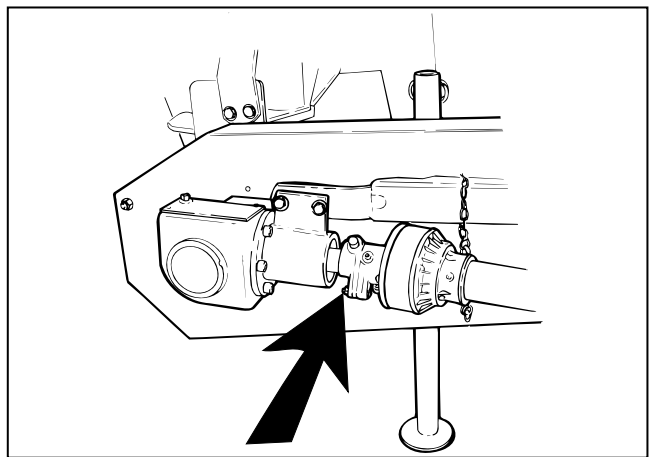


Fig. 21

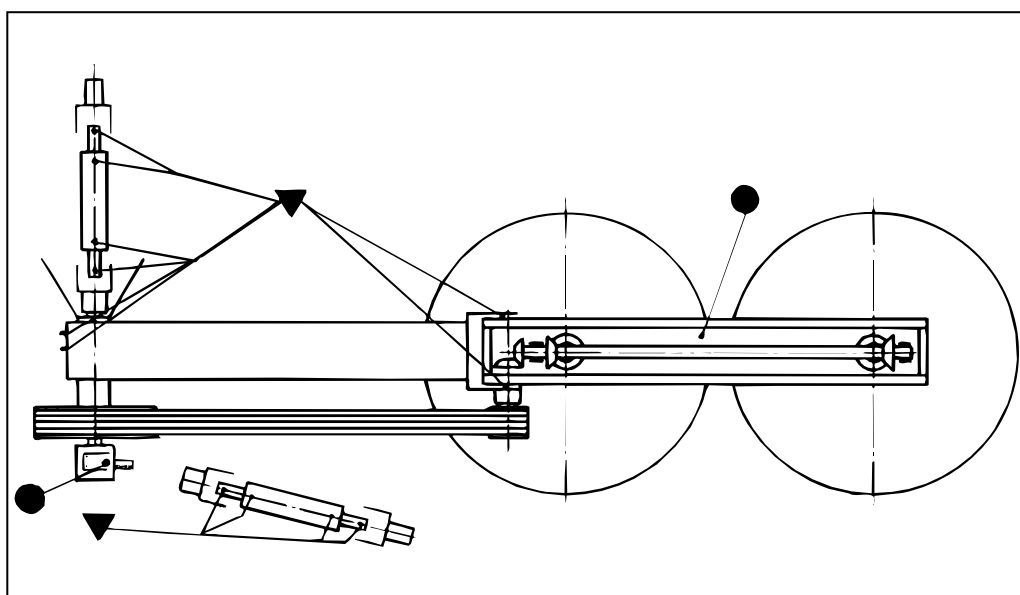


Fig. 22

## **CONDITIONER** (EXTRA EQUIPMENT) (CM1900/CM2250)

The degree of conditioning is modified by the handle **A** determining the distance from conditioner plate to the rotor.

**FIG. 18** In leafy crops a low degree of conditioning is obtained by adjusting to a large distance between the conditioner plate and the rotor.

## **DISMOUNTING OF CONDITIONER**

**FIG. 19** The conditioner can be dismantled by loosening the 2 dowels **B**. Then the conditioner is drawn backwards and the PTO-shaft is dismantled from the gearbox.

**FIG. 20** Canvas with rail is mounted to cover the hole from the conditioner  
Order no. CM 1900 4220-1238  
Order no. CM 2250 4220-1228.

**FIG. 21** The PTO-shaft of the conditioner is fitted with securing bolt **C**, which breaks by overloading of the conditioner. If driving without the conditioner for a long time the gearbox must be dismantled (3 Allen screws).

## **LUBRICATION**

**FIG. 22** **Grease once a day:**

	The PTO-shaft	4 spots
}	The top frame's swivel link	2 spots
	The swivel link by the gearbox	2 spots
	The conditioner	3 spots
	The PTO-shaft for the conditioner	4 spots.

Lubricate the sliding profiles tubes of the PTO shaft every 8 working hours.

↑↑

The gearbox and the bevel gear for the conditioner is filled with "**Shell Alvania RO" special grease**. It is not necessary to check the grease level. If - after repair - refilling of grease is required **only that grease must be used**. Refill to the shaft's under side.

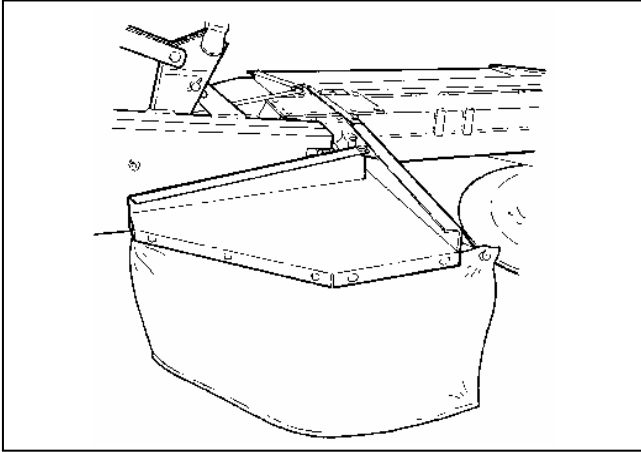


Fig. 23

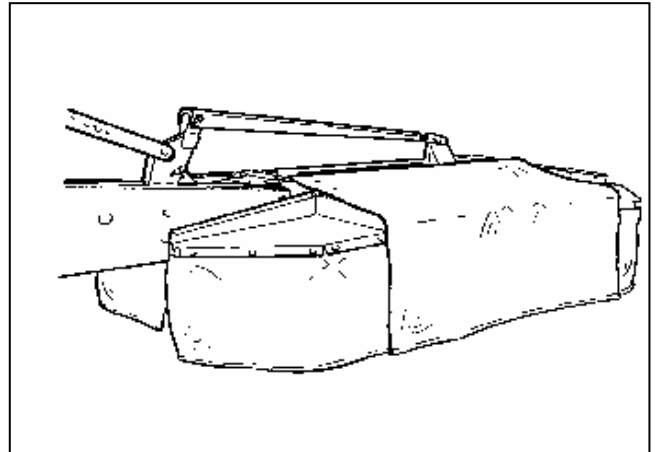


Fig. 24

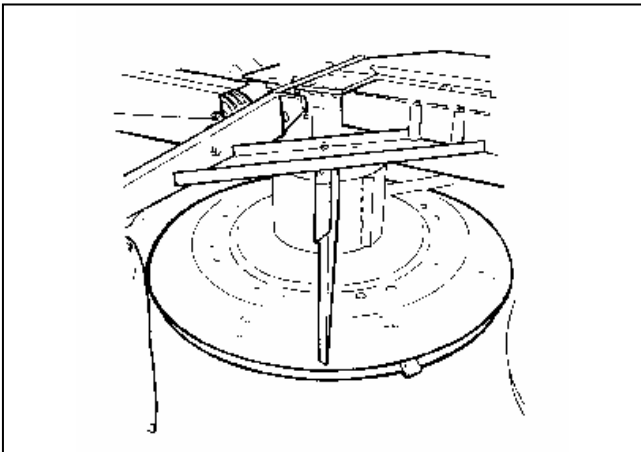


Fig. 25

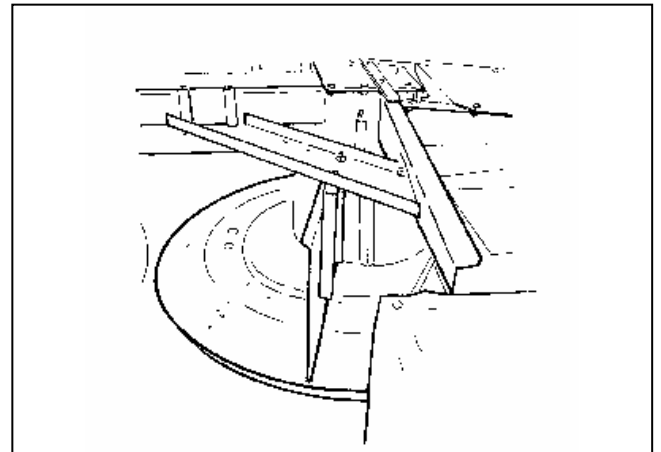


Fig. 26

## **MOUNTING INSTRUCTIONS** (CM 2250 )

**FIG. 23** Mounting of the guards for CM without the conditioner.

**FIG. 24** Mounting of canvas.

**FIG. 25** Mounting of swath boards. **(CM 2250)**  
Brackets for swath boards are mounted with 2 bolts in U-pieces welded on the gearbox and holes in the edge of the guard.

The swath board is mounted loosely in the oblong holes of the holder.

**FIG. 26** The holder is mounted on the bucket in the wanted angle (3 possibilities).  
Use the holes which give the right distance to the drum.  
Adjust the height of the swath boards above the rotor plate by means of the oblong holes.  
Retighten all the bolts.

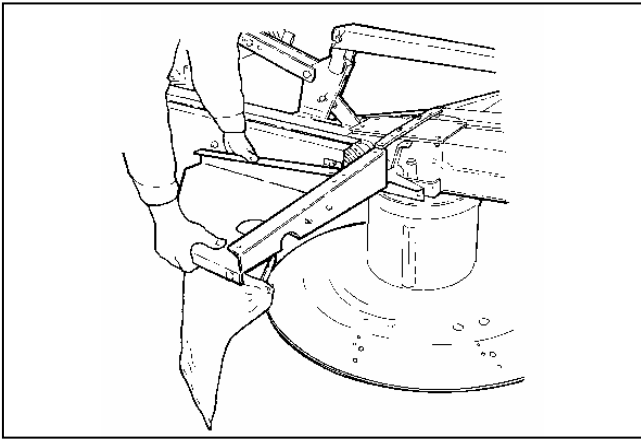


Fig. 27

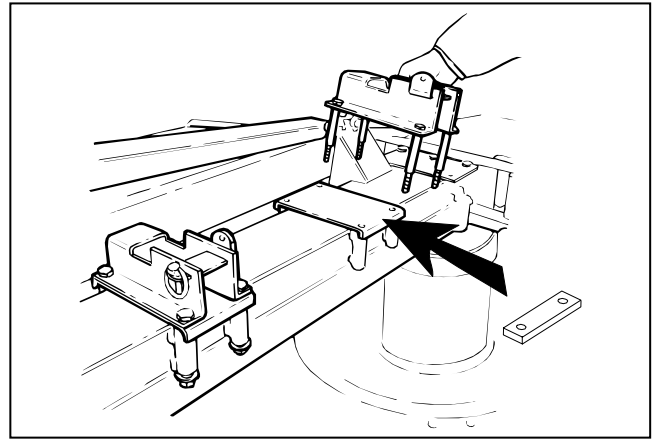


Fig. 28

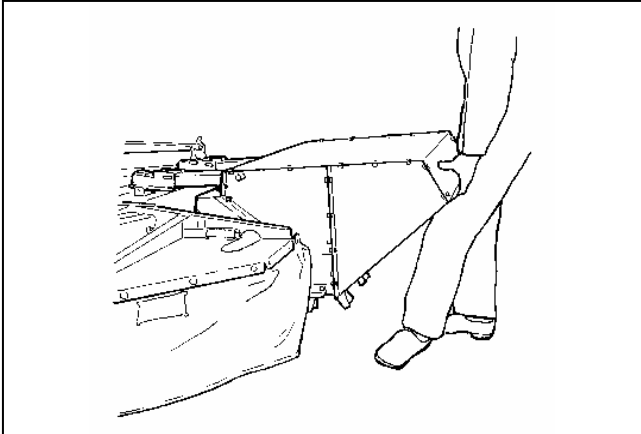


Fig. 29

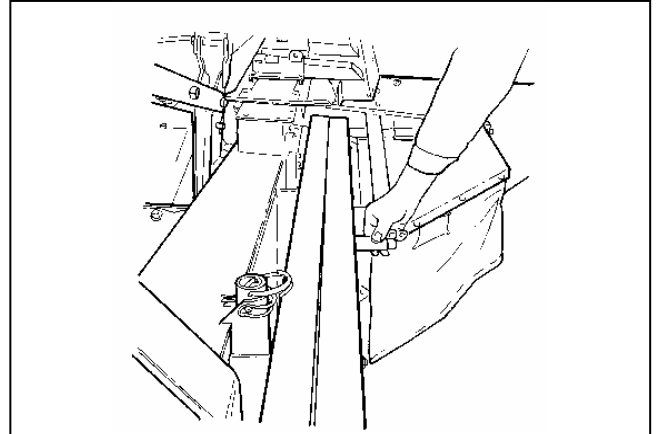


Fig. 30

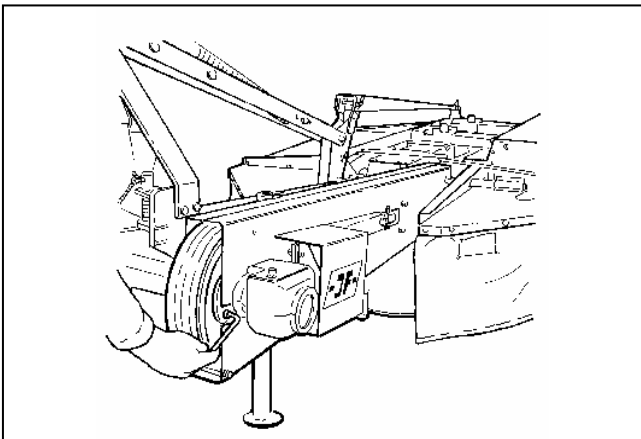


Fig. 31

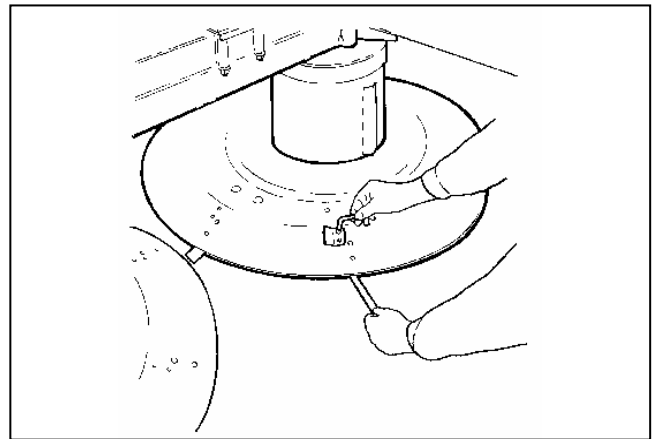


Fig. 32

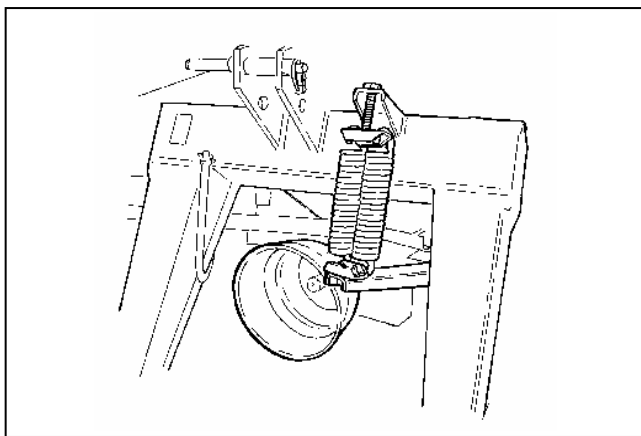


Fig. 33

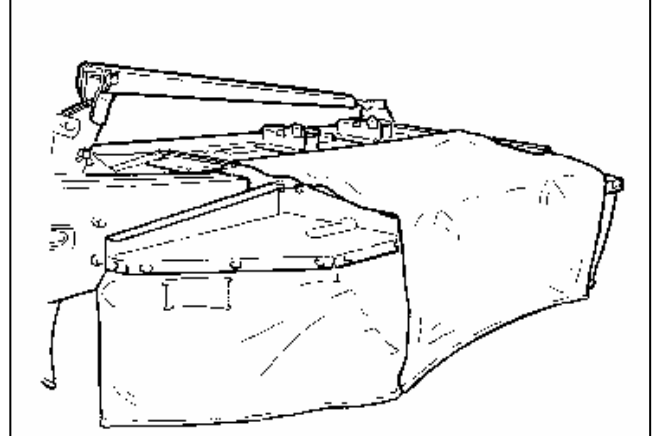


Fig. 34

## **MOUNTING OF CONDITIONER**

- FIG. 27**      Left guard with hole for the PTO is mounted.
- FIG. 28**      Bracket for mounting of conditioner and distance plate for a large stubble height.
- FIG. 29**      Place the conditioner and lock with dowels.
- FIG. 30**      Mount stop for arm.
- FIG. 31**      Mount the gearbox on the pulley (3 Allen screws).
- FIG. 32**      Bolt the carriers to the rotors.
- FIG. 33**      Mount extra springs on the release.
- FIG. 34**      Mounting of canvas after dismounting the conditioner.

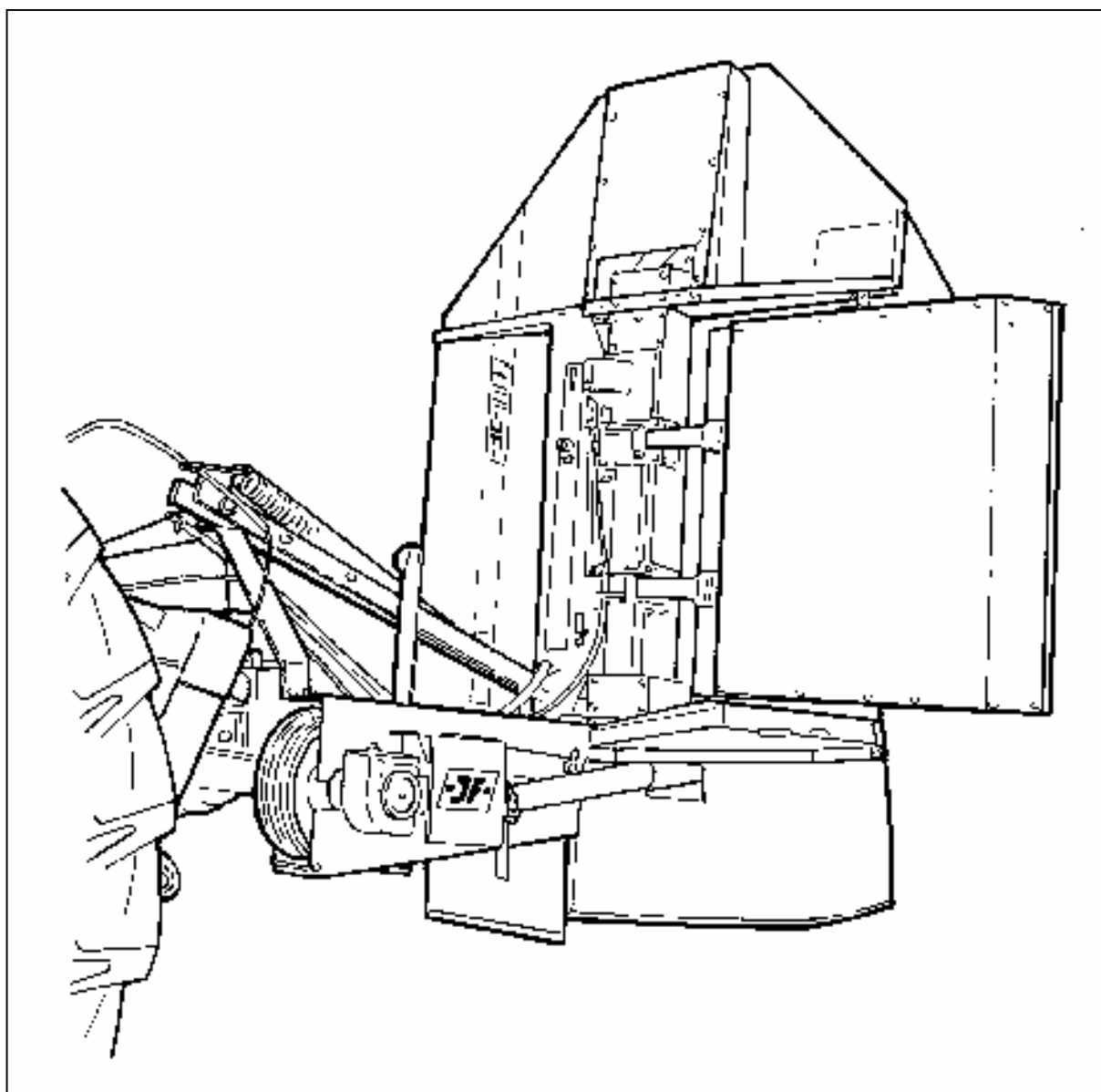


Fig. 35



## **HYDRAULIC LIFT** (EXTRA EQUIPMENT)

**FIG. 35** For use with small tractors CM 1900 / 2250 can be equipped with hydraulic lift for vertical position. Thereby the centre of gravity is placed further forward, and the lifting power required is reduced.

For transport the machine is raised by the hydraulics to vertical position. Hereby the machine is locked in the position.

By pulling in the string the mechanical lock is released and the machine is lowered.



# WARRANTY

**JF-Fabriken - J. Freudendahl A/S**, 6400 Sønderborg, Denmark, hereafter called "**JF**", grants warranty to any buyer of new JF machines from authorised JF-dealers.

**The warranty covers remedy of material and production faults.  
This warranty is valid within a year after date of sale to end-user.**

- The warranty is invalidated in the following cases:

1. **The machine has been used for other purposes than those described in the instruction manual.**
2. **Improper use.**
3. **Damage caused by external sources, e.g. lightning or falling objects.**
4. **Insufficient maintenance.**
5. **Transport damage.**
6. **The construction of the machine has been modified without JF's written permission.**
7. **Unskilled repair of the machine.**
8. **Unoriginal spare parts have been used.**

JF cannot be held responsible for loss of income or legal claim as a result of faults either of the owner or of a third party. JF is also not responsible for wages beyond current agreements in connection with replacement of warranty parts.

JF is not responsible for the following costs:

1. **Normal maintenance such as expenses for oil, grease and minor adjustments.**
2. **Transport of machine to and from workshop.**
3. **The dealer's travelling expenses or freight charges to and from the user.**

Warranty is not granted on wearing parts unless it can clearly be proved that JF has committed a fault.

The following is regarded as wearing parts:

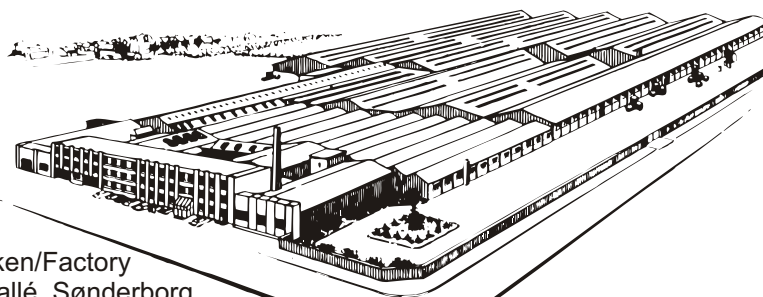
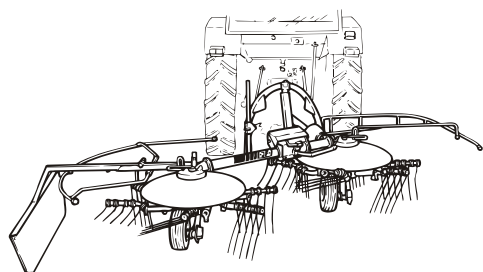
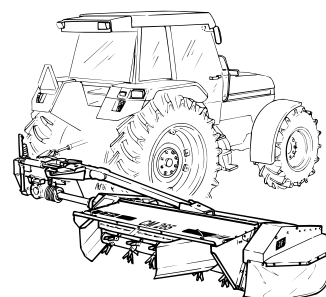
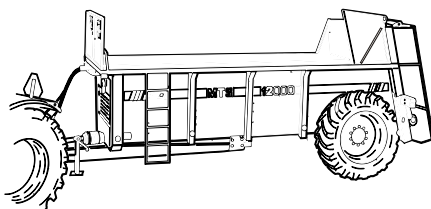
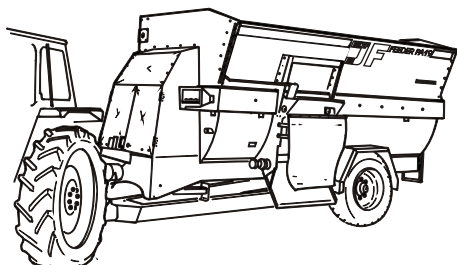
**Protective canvases, blades, blade suspensions, shearbars, guide shoes, stone protections, discs, rotor skirts, crimper parts, tyres, tubes, brake shoes, chain tightener parts, guards, hydraulic hoses, conveyors, wheel-fixing bolts and nuts, snap rings, sockets, PTO-shafts, clutches, gaskets and seals, tooth belts, V-belts, chains, sprocket wheels, carriers, conveyor chain slats, rake- and pick-up tines, rubber seals, rubber paddles, cutter blades, wearing plates and lining for spreading platform, shredding blades incl. bolts and nuts, spreading rotors and vanes for farmyard manure spreaders.**

In addition, the user must note the following:

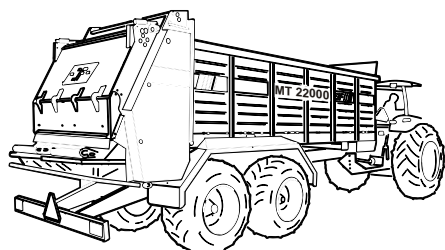
1. **The warranty is only valid if the dealer has undertaken pre-delivery check and has given instruction to the end user in the use of the machine.**
2. **The warranty cannot be transferred to others without JF's written permission.**
3. **The warranty can be nullified if the repair is not undertaken immediately.**



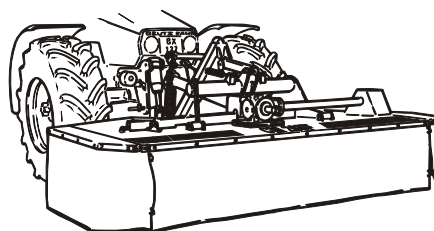
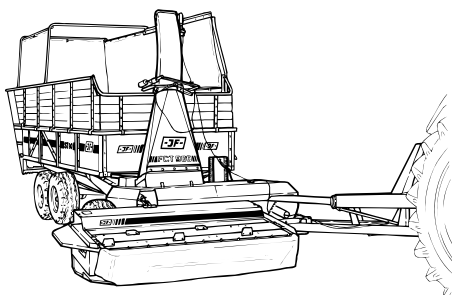
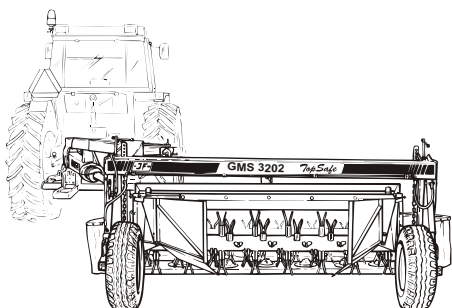
Et omfattende maskin program  
 Ein Lieferprogramm mit Zukunft  
 Progress In Farm Machinery  
 Une gamme de machines étendu  
 Progreso en Maquinaria Agrícola



Fabriken/Factory  
 Lindeallé, Sønderborg



Fabriken/Factory  
 Ulkebøl, Sønderborg



PIGB-059X-02 CM 1900/CM 2250/CM 225 0401

JF-Fabriken - J. Freudendahl A/S  
 DK-6400 Sønderborg - DANMARK  
 Tel: (+45) 74 12 52 52  
 Fax: (+45) 74 42 58 08  
 Fax: (+45) 74 42 55 41  
 www.jf.dk  
 (A company in the JF Group)