CM 305



Drum Mower

Directions for use

"Original instructions"

GB



FOREWORD

DEAR CUSTOMER!

We appreciate the confidence you have shown to our company by investing in a JF product and congratulate you with your new purchase. Of course, it is our wish that you will experience complete satisfaction with the investment.

This instruction manual contains information about correct and safe use of the machine.

When buying the machine you will receive information about use, adjustment and maintenance.

However, this first introduction cannot replace a more thorough knowledge of the different tasks, functions and correct technical use of the machine.

Therefore you should read this instruction manual very carefully before using the machine. Pay special attention to the safety instructions.

This instruction manual is made so that the information is mentioned in the order you will need it, i.e. from the necessary operation conditions to use and maintenance. Besides this there are illustrations with text.

"Right" and "Left" are defined from a position behind the machine facing the direction of travel.

All the information, illustrations and technical specifications in this instruction manual describe the latest version at the time of publication.

Kongskilde Industries A/S reserves the right to make changes or improvements in the design or construction of any part without incurring the obligations to install such changes on any unit previously delivered.

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1. INTRODUCTION

INTENDED USE

JF drum mowers are developed for agricultural work. They should only be connected to tractors and driven by the PTO of the tractor.

The drum mowers are solely intended for:

Cutting on the ground of natural or planted grass and stem crops for animal feeding purposes.

It is assumed that the work is performed under reasonable conditions, i.e. that the fields are cultivated normally and to a reasonable extent kept clear of foreign matter and the like.

Any other use is regarded as not intended. Kongskilde Industries A/S is not responsible for any damage resulting from such use, the user bears that risk. If changes are made on the machine and its construction without permission from Kongskilde Industries A/S, Kongskilde Industries A/S cannot be held responsible for any damage resulting from this.

Intended use, of course, implies that you observe the instructions in the instruction manual and the spare parts book, use original spare parts and contact an authorised workshop, in so far as it is necessary.

The following safety instructions as well as common rules concerning technical safety, working practices and road safety **must be observed altogether**.

The drum mowers should only be used and maintained by persons who, through relevant instructions and after reading the instruction manual, are familiar with the machine in question and, in particular, are informed of possible dangers.

SAFETY

The safety of persons and machines is an integral part of JF's development work. However, damage can occur as a consequence of misuse and insufficient instruction. **We wish to ensure the safety of you and your family in the best possible way**, but this also requires an effort on your part.

A mower cannot be constructed in such a way that it guarantees the full safety of persons and at the same time performs an efficient piece of work. This means that it is very important that you as user of the machine pay attention and use the machine correctly and thereby avoid exposing yourself and others to unnecessary danger.

The following safety instructions as well as common rules concerning technical safety, working practices and road safety must be observed altogether.

The machine demands skilled operation, which means that <u>you should read the</u> <u>instruction manual before you connect the machine to the tractor</u>. Even though you have been driving a similar machine before, you should read the manual - this is a matter of your own safety!

You should **never** leave the machine to others before you have made sure that they have the necessary knowledge to operate the machine safely.

DEFINITIONS

The safety decals and the instruction manual of the machine contain a line of safety notes. The safety notes mention certain measures, which we recommend you and your colleagues to follow as to increase the personal safety as much as possible.

We recommend that you take the necessary time to read the safety instructions and inform your staff to do the same.



In this instruction manual this symbol is used with reference to personal safety directly or indirectly through maintenance of the machine.

- **CAUTION:** The word **CAUTION** is used to ensure that the operator follows the general safety instructions or the measures mentioned in the instruction manual to protect the operator and others against injuries.
- **WARNING:** The word **WARNING** is used to warn against visible or hidden risks, which might lead to serious personal injuries.
- **DANGER:** The word **DANGER** is used to indicate measures which, according to legislation, must be followed to protect the driver and others against serious injuries.

GENERAL SAFETY INSTRUCTIONS

The following is a brief description of the measures, which should be observed by the operator.

TRANSPORT

- 1 Always lower the cutting unit to the ground or activate the transport safety device when parking the machine.
- 2 Never stand between the tractor and the machine during connection and disconnection.
- 3 Always drive with the statutory lights and safety marking during transport on public road and at night.
- 4 Always use transport safety devices and stop valves for hydraulic cylinders.
- 5 Limit the transport speed to maximum 30 km/h if the machine has not been marked with another maximum speed limit. Always adjust the driving speed to the conditions of the road.
- 6 Never let anyone stand or sit on the machine, especially not when you are driving.

WORKING

- 7 The clothes of the operator must be tight-fitting. Avoid loose clothes.
- 8 Use hearing protectors if the tractor has not been silenced sufficiently.
- 9 Make sure that all guards are intact and have been mounted correctly.
- 10 When connecting the PTO drive shaft, check for 540/1000 rpm.
- 11 Never start the tractor until all persons are safely away from the machine.
- 12 Do not stand near the machine while it is working.
- 13 Do not allow any children to be near when you are working with the machine.
- 14 Never use the machine for other purposes than what it has been constructed for.
- 15 Do not stand near or try to lift a guard until all revolving parts have stopped moving. This also applies when adjusting the machine!
- 16 Always disengage the PTO drive shaft, activate the parking brake and stop the tractor engine before you adjust the machine. Remove the ignition key.

MAINTENANCE

- 17 Never work under the machine unless it is secured by means of stop blocks or other mechanical securing device.
- 18 Always block the wheels before working under the machine.
- 19 Always disengage the PTO drive shaft, activate the parking brake of the tractor, stop the tractor engine and remove the ignition key before you:
 - lubricate the machine,
 - clean the machine,
 - disassemble any part of the machine,
 - adjust the machine.
- 20 Make sure that all tools have been removed from the machine before starting the tractor.

SAFETY JF MOWERS

CHOICE OF TRACTOR

Always follow the recommendations specified in the instruction manual of the tractor. If this is not possible, technical assistance must be sought.

Choose a tractor with a suitable power on the PTO. To obtain full capacity under all conditions, we recommend you to choose a tractor which has 15 kW more than the informed minimum.

If the power of the tractor is considerably larger than that, the machine should be secured against overload with a suitable clutch on the PTO.

If you have chosen a machine which is constructed for 540 rpm, you should make sure not to use the wrong PTO by mistake. It is **highly dangerous** to connect a machine intended for 540 rpm, to a PTO delivering 1000 rpm.

Long-term overload may damage the machine and at worst result in ejection of parts.



Choose a tractor with a suitable own weight and track width so that it

can drive steadily on the ground. Also make sure that the link arms and towing hook of the tractor are intended to carry machines with the own weight in question.

To maintain full control of the tractor under all conditions, minimum 20 % of the own weight of the tractor should be on the front axle. It may be necessary to use front weights to fulfil this requirement.

Always choose a tractor with a closed cabin when working with a mower.

The hydraulic system of the tractor should deliver a pressure of maximum **210 bar**.

CONNECTION AND DISCONNECTION

Never stand between the tractor and the mower during connection and disconnection.

An unintentional manoeuvre with the tractor may cause serious injury.



Make sure that the PTO drive shaft has been mounted correctly, i.e. that the lock pin is in mesh and that the support chain has been fastened at both ends.

The guard must be intact. If the guard is defective it must be replaced immediately.

Check that all hydraulic couplings are correctly mounted and tight and that all hoses and fittings are undamaged before activating the hydraulic system.

When the tractor engine has stopped, make sure that there is no pressure in the hydraulic hoses by activating the tractor hydraulic spool valves.

Hydraulic oil under pressure can penetrate the skin and cause serious infections.

You should always protect the skin and the eyes against oil splashes. If, by accident, hydraulic oil under pressure hits you, consult a doctor immediately.



Make sure that no persons are near the machine when starting as there might be air in the hydraulic system which might lead to sudden movements.

To ensure all the air has been expelled from the oil in the hydraulic cylinders, test all the functions after the hydraulic connections are connected to the tractor. Especially before you enter or drive on public roads.

TRANSPORT

Never drive faster than the conditions allow, and maximum 30 km/h.

It is important to block hydraulic transport adjustments. An unintentional operation of the cylinders may cause the machine to move and at worst hit cyclists or pedestrians. This may also happen if there is air in the hydraulic cylinders or if there is a sudden loss of oil from the hydraulic hoses.

Therefore, always check that mechanical transport safety devices are activated before transport.

WORKING

Before working check blades and drums for cracks and other damage. Replace damaged blades and drums.

Check periodically if blades and blade holders are worn according to the rules in the instruction manual. (See section on maintenance)

Loose stones and foreign matter in the field might get in contact with the revolving parts and get thrown out again at a very high speed.

Therefore, all guards must always be correctly mounted and intact when you are working with the machine.

In stony fields the stubble height should be adjusted to maximum (horizontal cutter bar) height.

It is important that the cutting unit is correctly relieved to ensure perfect operation in the field and to reduce the risk of damaging the cutter bar.

Unexpectedly large amounts of crop or driving on existing swaths may cause the cutting unit to block.

If the cutting unit is blocked, stop the tractor engine, activate the parking brake and wait until the revolving parts have stopped before removing the foreign matter.

When working with a side-mounted mower, never drive too fast along slopes and hillsides as you should be able to avoid large stones, ditches and other obstacles which may cause the tractor to overturn.

Also remember to adjust the speed for sharp turns on hillsides and for lifting the machine in the three-point linkage.

The side-mounted mowers have a safety release which secures the directional stability of the tractor and reduces damage in case of collision.

Check that the safety release can be released and that it is not blocked.

If the vibrations or the noise of the machine increase considerably during the operation, stop working immediately. Do not continue the work until the fault has been corrected.

MAINTENANCE

Always make sure that the used spare parts are tightened correctly.

When replacing parts in the hydraulic system always make sure that the cutting unit rests on the ground or the lifting cylinders are blocked mechanically.

Hydraulic hoses must be checked by an expert before use, and after that minimum once a year. If necessary, they must be replaced. The working life of hydraulic hoses should not exceed 6 years, including maximum 2 years of storage.

When replacing, always use hoses which comply with the requirements stated by the manufacturer. All hoses are marked with date of production.

MACHINE SAFETY

All revolving parts are balanced by JF by means of a special machine with electronic sensors. If it turns out that a part still has an unbalance, small counterweights should be mounted.

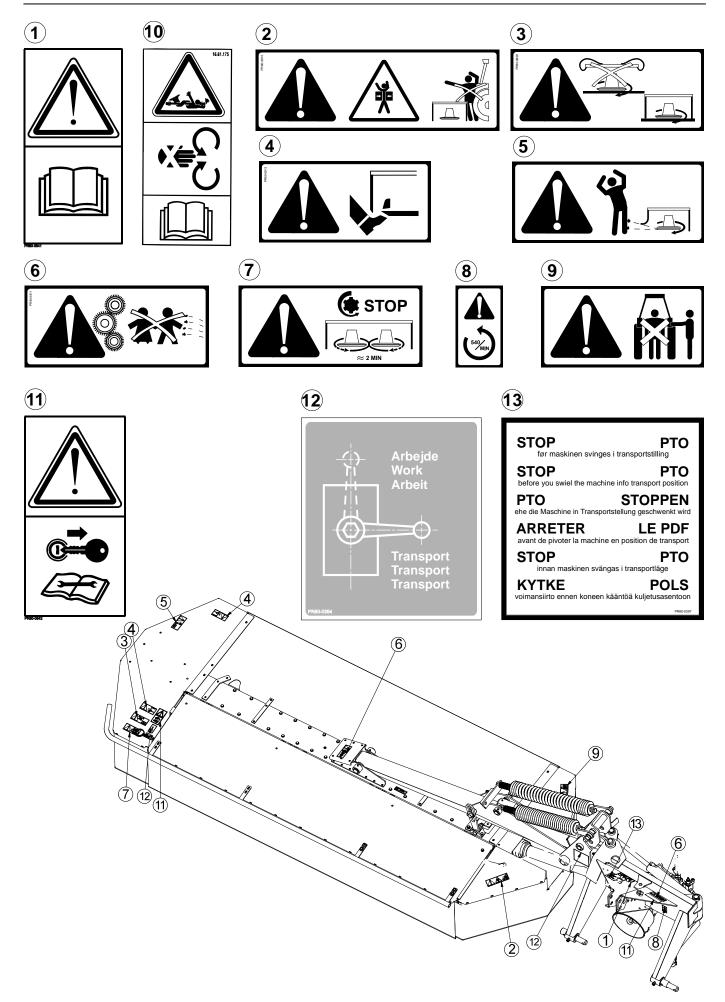
As the rotors run at up to 2000 RPM, even the slightest unbalance will cause vibrations which may lead to fatigue fractures.

When replacing blades, all blades on the rotor in question must be replaced as not to create an unbalance.

During the season check daily that no blades, carriers or bolts are missing. If any of these are missing, mount new parts immediately.

Friction clutches must be "aired" regularly to ensure that they do not get rusty.

1. INTRODUCTION



SAFETY DECALS

The safety decals shown on the previous page are positioned as shown on the drawings at the bottom of the page. Before using the machine, check that all decals are present: if not, require those missing. The decals have the following meaning:

1 Read the instruction manual and the safety instructions

This is to remind you to read the delivered documents to ensure the machine is operated correctly and to avoid unnecessary accidents and machine damage.

2 Risk of getting jammed

Never let anyone stand between the machine and the tractor after the connection. An unintentional manoeuvre may cause serious injury.

3 Operation without canvas

Do not start the machine unless canvases and guards are intact and in their right place. The machine can throw out stones and other foreign matter during operation. The purpose of the canvases and the guards is to reduce such danger.

4 Rotating blades

Do not under any circumstances let anyone get near or stand near the machine during operation. The rotating blades of the machine can without difficulty cause serious injury to any part of the body if hit by such a blade.

5 Risk of stones being thrown

Similar meaning to decal No. 3. Even though all canvases and guards are in the right place, there is still a risk of stones etc. being thrown out. Therefore, nobody should be allowed to stand near the machine during operation.

6 Children

Never let children stand near the machine during operation. Especially not small children as they have a tendency to do unforeseen things.

7 Rotating parts

After the PTO drive shaft has stopped, the blades will have a momentum where they keep rotating for up to 2 minutes. Wait until the blades have come to a complete stop before you remove the canvas and the guards for inspection and maintenance.

8 The number and the direction of rotations

Check that the PTO drive shaft runs with the right RPM and in the right direction. A wrong number of rotations and/or direction of rotation can eventually damage the machine with the risk of personal injury as a result.

9 Risk of injury during the connection

Never let anybody stand between the tractor and the machine during connection to the tractor. An unintentional manoeuvre may cause serious injury.

10 The PTO drive shaft

This decal has the purpose to remind you how dangerous the PTO drive shaft can be if it is not correctly mounted or protected.

11 Stop the tractor engine and remove the ignition key before touching the machine

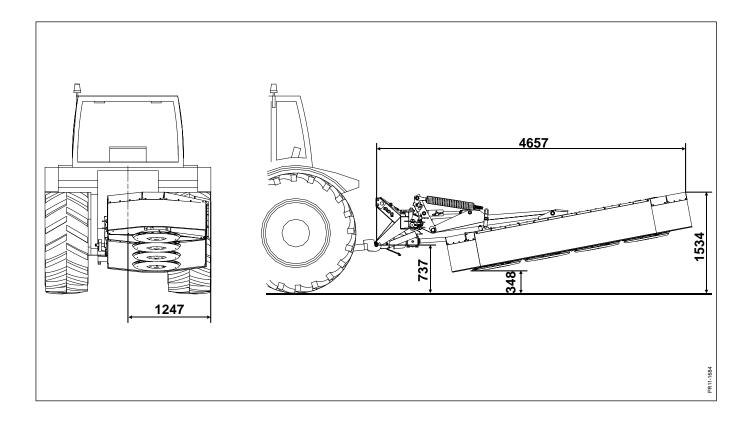
Always remember to stop the tractor engine before lubricating, adjusting, maintaining or repairing. Also remember to remove the ignition key to ensure that nobody starts the engine until you have finished.

12 Stop the PTO before placing the machine in transport position

The PTO must always be stopped before the machine is swivelled backward in order to avoid risk of personal injury and machine damage.

13 Block the hydraulic cylinder before transport

In order to ensure that there will be no unintentional movements, the hydraulic cylinder must be disconnected from the tractor hydraulics at the stop cock before transport.



TECHNICAL DATA

			CM305-2
Working width [m]		3.05	
Capacity		[Ha/h]	2.6 - 3.0
Power requirement on PTO		[kW/HP]	Minimum 66/90
PTO (Standard)		[rpm]	1000
Suspension (Standard)		Cat. II	
Outlets		1 SA + 1 DA	
Weight	Veight [kg]		950
Number of drums [pcs.]		4	
Number of blades		[pcs.]	12
Swath rollers		Option	
Swath width [m]		Approx. 2.1	
Transport wi	Transport width [m]		Within tractor widths > 2.1 m
Stone release, hydraulic		Standard	
Free wheel		Standard	
Noise level in tractor cabin	Machine connected	Window closed	71.6 dB
		Window open	84.6 dB
	Machine	Window closed	71.4 dB
	disconnected	Window open	73.1 dB

We reserve the right to change the construction and specification details without notice.

2. CONNECTION OR DISCONNECTION AND TEST DRIVING

CONNECTION TO THE TRACTOR



DANGER: Check the following before you start working:

- Check if the blades are mounted correctly.
- Check if the safety devices are intact and placed correctly.
- Check the screws.
- The guard of the PTO shaft is secured with the chain.
- Only start the mower in working position.
- Never let the machine run without supervision.
- Make sure that there are no persons in the danger zone. Stop the mower immediately if persons are approaching.
- Grease the machine carefully before you start working.

First, the machine should be adjusted to the track width of the tractor.

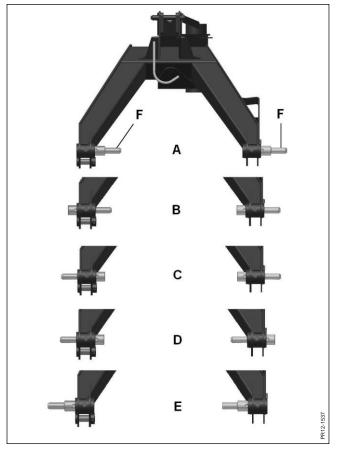


Fig. 2-1

Fig. 2-1 You can choose between 5 settings (**A**, **B**, **C**, **D** and **E**) of the pins **F** on the headstock corresponding to the following tractor widths:

Tractor width [mm]	Pin position
>2560	А
-2460	В
-2300	С
-2140	D
< 2040	E

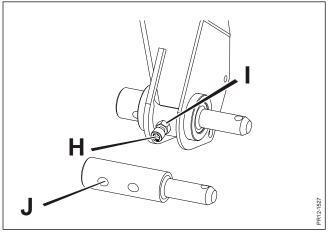


Fig. 2-2

Fig. 2-2 Adjustment of pin position: Counter nut **I** is loosened and bolt **H** is turned out. The pin is displaced and fastened above the centre hole **J**, the bolt is tightened and the counter nut is tightened.



DANGER: If the hitch pins are not fixed properly or if the link arms are not mounted correctly, there is a risk of losing the machine unintentionally.

- check if the hitch pins are fastened correctly
- check if the hitch pins are correctly engaged with the link arms.

Connect the link arms of the tractor to the coupling points **F** of the machine.

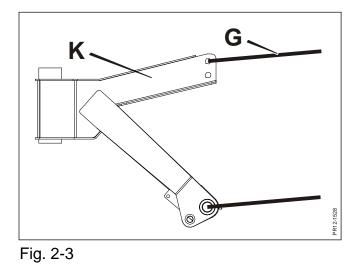


Fig. 2-3 Mount the top link **G** so that it is approximately parallel with the link arms of the tractor. Thereby a suitable movement is achieved when lifting the machine with the link arms and optimal conditions for later connection and disconnection of the machine.

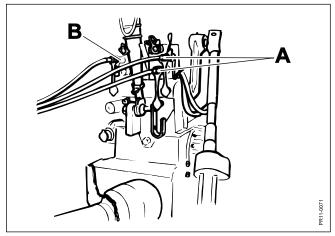




Fig. 2-4 Connect the hydraulic hoses for transport conversion to a double-acting hydraulic outlet.

Connect the hydraulic hose for the lifting cylinder to a single-acting hydraulic outlet.



DANGER: The hydraulic components must not be exposed to a higher working pressure than 210 bar as a higher working pressure may gradually cause parts to be damaged. Hereby a serious risk of personal injury occurs.

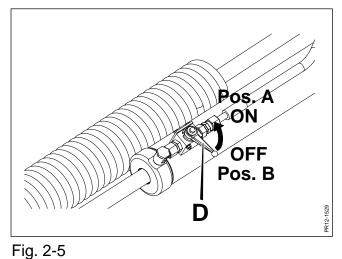


Fig. 2-5 The stop cocks at the hydraulic cylinders must be opened - position A, in order for the machine to be moved.



During transport and disconnection of the hydraulic hose, the stop cock must be closed - position B Fig. 2-5.

Raise the machine with the link arms and place it in working position.

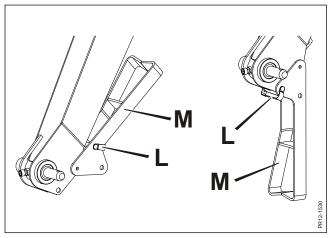


Fig. 2-6

- **Fig. 2-6** Folding of the support: Remove the spring pin L and the support **M** can be folded up. The support is secured again with the spring pin.
- Fig. 2-3 Adjust the length of the top link G so the headstock K is vertical.

If necessary the length of the PTO shaft between tractor and machine is adjusted.



IMPORTANT: Do not shorten your new PTO shaft until you are certain that it is necessary. From the factory the shaft is adjusted to the distance from PTO to PIC which is standard on most tractor brands.

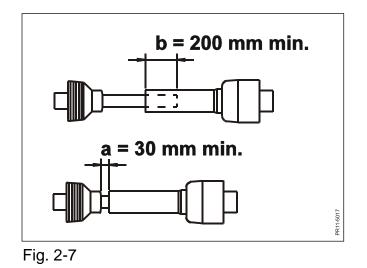


Fig. 2-7 Adjust the length of the PTO drive shaft so that it in working position has minimum 200 mm overlapping on the profile tubes and in no position is compressed more than the prescribed 30 mm in order not to bottom the shaft.

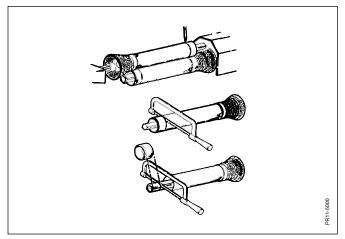


Fig. 2-8

Fig. 2-8 Fasten the PTO drive shaft half parts to PTO (on the tractor) and PIC (input shaft on the machine), respectively, when these are at the same horizontal level and opposite each other. (The shortest distance from the machine). Hold the shaft ends parallel to each other and mark the 30 mm (minimum).

The PTO-shaft can be mounted – the friction clutch towards the machine side.

The guard of the PTO shaft is secured with the chain.



CAUTION:

carefully. Grease the tube carefully before reassembling. If the shafts are not greased, they are exposed to big friction forces if e.g. the

stone release system is activated during the transmission of heavy load.

Shorten all 4 tubes equally. The ends of the profile tubes MUST be rounded off outside and inside. Burrs MUST be removed

IMPORTANT: For the warranty of the PTO shaft to be valid, and to retain the durability, the following rules must be observed.

- Always start the machine with the engine running at low speed.
- Always start the machine with the PTO shaft in a position of maximum 10° from horizontal.
- A sudden increase in the number of rpm of the machine, e.g. when driving into the crop after turning in the field, <u>must only take place</u> with the PTO shaft in a position of maximum 10° from horizontal.
- <u>Last, but not least</u>: Grease the PTO shafts and especially the profile tubes every 8 working hours, minimum.

TEST DRIVING

When all guards are in place and the machine is in working position, a test drive can be made.

Before connecting the PTO, check if all tools have been removed from the machine and that no persons are near. Connect the PTO shaft carefully and let the engine run at low number of rpm for some minutes. If there is no unintended noise or unusual vibrations, the speed can be increased to normal number of RPM.

Apart from the tractor driver nobody should stand near the machine.

DISCONNECTION OF THE MACHINE

The machine is parked on **firm and even ground**. The machine can be parked in working as well as transport position.



R: Stop the engine and remove the ignition key before working on the machine.



It is important to loosen the relief springs before disconnecting the machine since connection and disconnection will otherwise be difficult.

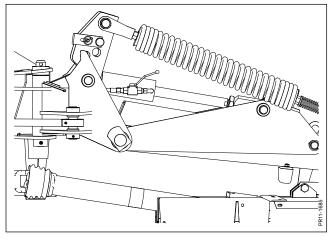


Fig. 2-9

Fig. 2-9 Loosen relief springs. This is done when the machine is lifted with the lifting cylinder and the springs are loose. The pin in the spring tightener is moved to the upper hole (parking position). Now the machine can be lowered with the lifting cylinder without the springs being tightened.

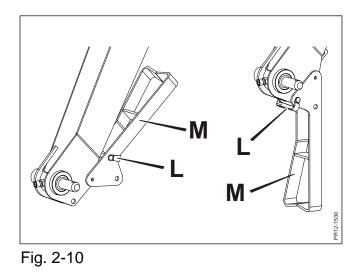


Fig. 2-10 Folding of the support: Remove the pin **L** and the support **M** can be folded down. The support **M** is secured again with the pin **L**.

The top link is loosened and dismounted. The headstock is lowered and the link arms are disconnected.



Fig. 2-11

Fig. 2-11 The PTO shaft and the hydraulic hoses are dismounted and placed in the holders.

3. ADJUSTMENTS AND DRIVING

CONNECTION

Note:

The following instructions imply that the machine has been prepared, adjusted to the tractor and tested according to section 2. CONNECTION OR DISCONNECTION AND TEST DRIVING.

Instruction for normal connection:

- 1) Place the tractor right in front of the three-point linkage of the machine.
- 2) Check if the link arms of the tractor are at the same height.
- 3) Connect the machine to the link arms of the tractor.
- 4) Mount the top link. It should be approximately parallel with the link arms.

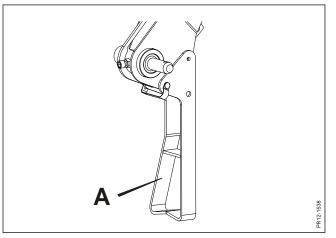
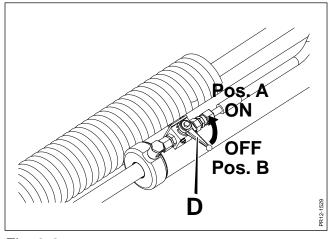


Fig. 3-1

- Fig. 3-1 5) Raise the link arms so that the support **A** can be lifted.
 - 6) Connect the hydraulic hoses to a single-acting and a double-acting hydraulic outlet.









DANGER: During transport and disconnection of the hydraulic hose, the stop cock D must be closed - position B.

7) The PTO shaft is mounted on the tractor and the guard is secured with the chain.

CONVERSION FROM WORKING TO TRANSPORT POSITION

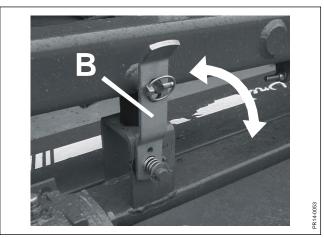


Fig. 3-3

Fig. 3-3 The transport lock **B** is locked for transport position.



WARNING: Conversion to transport position should not take place with revolving PTO shafts. The PTO shafts cannot rotate in transport position.

Fig. 3-3 The pendulum suspension must be locked with the transport lock **B** during transport to avoid traffic damage.

Conversion: With raised machine the double-acting hydraulic outlet is activated.



G: Conversion to transport position should not take place with revolving PTO shafts.

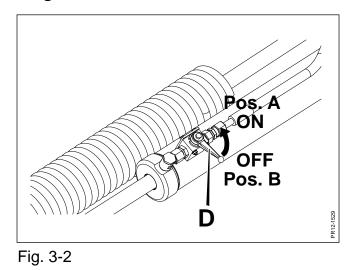
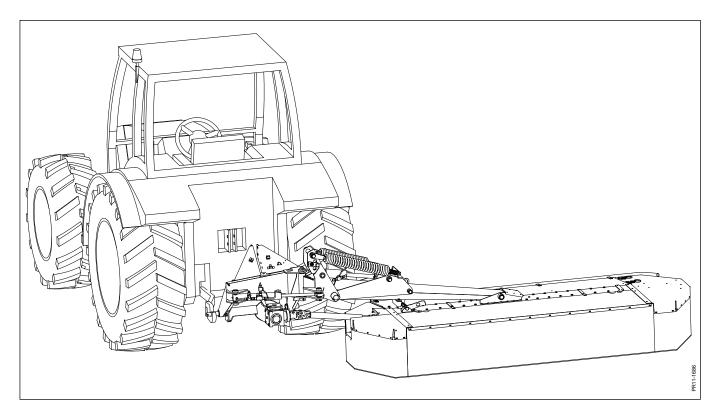


Fig. 3-2 During transport the cylinders must be blocked with the ball valves **D**.

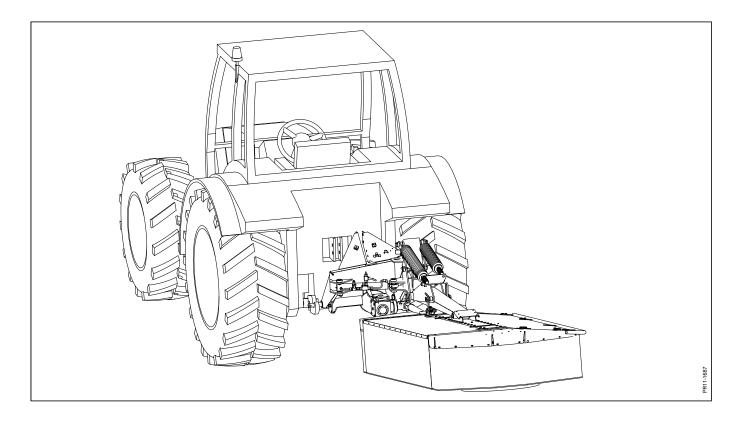


DANGER: TRAFFIC MARKING: Before transporting the machine on public road, make sure that the traffic rules can be observed. This, of course, implies that the machine does not cover the lights and signals on the tractor.

WORKING POSITION



TRANSPORT POSITION



CONVERSION FROM TRANSPORT TO WORKING POSITION

DANGER:

Before the machine is placed in working position, you must check that there are no persons in the danger zone and that there is no risk of collision with objects near the machine.

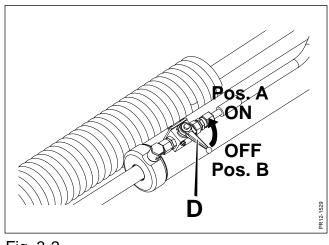




Fig. 3-2 For working position the stop cocks **D** at the hydraulic cylinders must be opened.

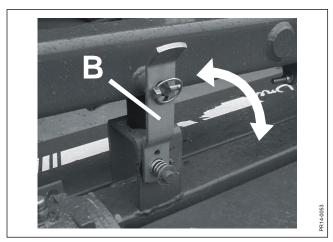


Fig. 3-4

Fig. 3-4 The transport lock **B** is released for working position.

Important: During work the hydraulic outlets must be in floating position so that the machine can follow the ground and the stone release system works.

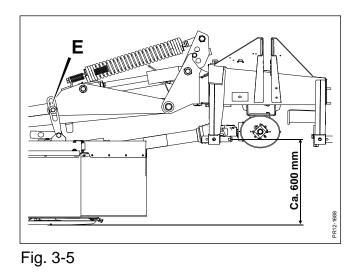


Fig. 3-5 With the cutting unit lowered to the ground, the headstock is raised or lowered with the 3-point suspension so that the bolt **E** is in the middle of the oblong hole. In this position the link arms have a height of about 600 mm.

Lift the cutting unit with the lifting cylinder. If the headstock thereby gets a very oblique position, the ground clearance when turning is reduced. Adjust by changing the height of the tractor's right-hand link arm.

The 3-point suspension can now be fixed for the operation, since the height should not be changed during working.

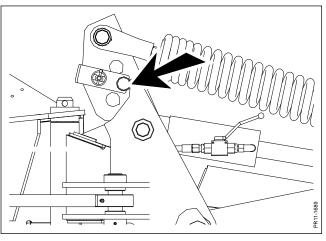


Fig. 3-6

Fig. 3-6 The spring is tightened by mounting the pin in the middle hole in the spring tightener. This is done when the cutting unit is lifted with the lifting cylinder and the springs are loose. The pin in the spring tightener is moved to the middle hole. When the cutting unit is now lowered, the springs are tightened and the relief is active. See also 3.9 Relief.

STONE RELEASE

CM 305 machines are equipped with a stone release which makes it possible for the cutting unit to swivel backwards in case of collision with an obstacle. This stone release can be found at the back of the suspension.



IMPORTANT: The stone release only works when driving forwards.

If the stone release is activated too often, it may be becaue the ground pressure of the cutting unit is too high. Always check the adjustment of the relief before you change the adjustment of the stone release.

HYDRAULIC STONE RELEASE

The hydraulic stone release works with a pressure relief valve at the swivel cylinder. If the pressure in the cylinder gets too big, the oil runs from the cylinder to the lifting cylinder and back to the tractor.

From the factory the pressure relief valve is adjusted to open at 180 bar. Adjustment of the valve must always be made by an expert with suitable measuring equipment.

When the hydraulic stone release has been activated the cylinder can be put back to working position by using the hydraulic outlet.



WARNING: After each stone release the machine must be stopped and inspected for damage immediately. In case there is any damage do not continue the work until repair has been made.

WORKING IN THE FIELD



Stop the tractor engine, remove the ignition key and activate the parking brakes before changing the adjustments of the machine.

CUTTING HEIGHT

CAUTION:

Fine adjustment of the cutting height can be made with the length of the top link. A short top link gives a low cutting height.

N.B. Avoid backward inclination as the machine will then recut.

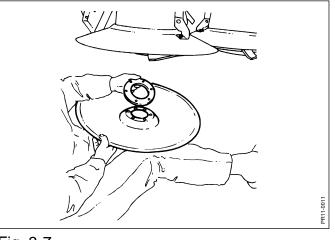




Fig. 3-7 A higher cut is obtained by mounting spacers at the guide shoes (optional equipment).

STARTING

First of all, carry out the points mentioned under Chapter 2 - Connection and disconnection and test driving - "Check the following before you start working".

DANGER:

Before starting check that the guards are intact and that no persons are near. If this is not the case, the machine must be stopped immediately.

Danger due to rotating parts, and risk of ejecting foreign matter.

If canvases are worn or damaged, they must be replaced immediately.

Do not under any circumstances lean against or step on the canvas.

Clear the field of foreign matter.

Any work near the blades means danger of personal injury. Always stop the tractor engine, remove the ignition key and wait until the PTO has stopped before carrying out any work on the machine. Always use safety gloves.

Before driving into the crop, increase the PTO to 1000 rpm.

Always make sure that the number of revolutions is not reduced considerably during the operation as this might result in an unsatisfactory cut.

Always adjust the driving speed to the conditions of the ground.

NB: It is normal that the revolving parts (rotors, drums and blades) will be noisy when starting due to the high number of rotations of the rotors (2000 rpm). The noise will be reduced when the machine starts working in the crop.



CAUTION: Before working in the field, always check the machine - especially the blades - for any damage. The same applies after collision with obstacles. Check if the blades are mounted correctly. Worn or missing blades must be replaced immediately. Always replace all blades on the drum in question.

TURNING

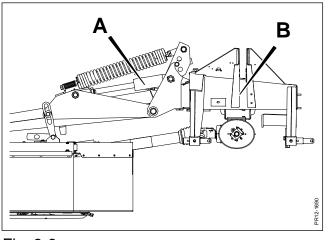


Fig. 3-8

Fig. 3-8 When turning in the field, use the lifting cylinder **A** on the boom (Easy Lift). The headstock **B** stays where it is. To obtain a good ground clearance it is important that the lifting cylinder is at the bottom position.

STONE RELEASE

A hydraulic stone release enables the cutting unit to swivel backwards in case of collision with foreign matter.

When the stone release is activated, disengage the power take-off immediately and stop driving.

Disengagement is important as the PTO shafts will otherwise be exposed to a large angle due to the backwards movement of the cutter bar.

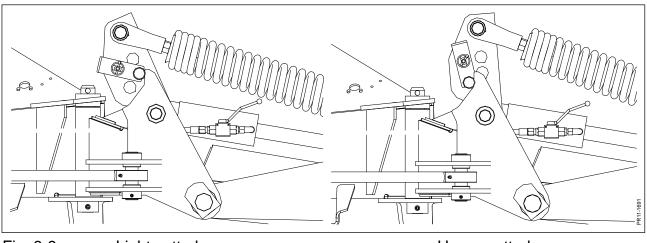
The cutting unit is moved back again with the double-acting hydraulic outlet.

After each stone release the machine must be checked for damage.



Stop the engine and remove the ignition key before working on the machine.

RELIEF





Heavy cutterbar

Fig. 3-9 In order to spare the stubble during working, reduce the wear of the skids and minimise the power requirement the machine is relieved by means of 2 strong tension springs.

On hilly ground it may be necessary to reduce the relief (i.e. increase the ground pressure) to ensure satisfactory ground following abilities for the cutting unit.

The relief is reduced by mounting the pin in the bottom hole in the spring tightener.

This can only be done when the cutting unit is lifted with the lifting cylinder and the springs are loose.

BLADES

Each drum is working with 3 sets of knives mounted by means of special blade holders under the rotor skirts. Each blade is made of hardened spring steel.

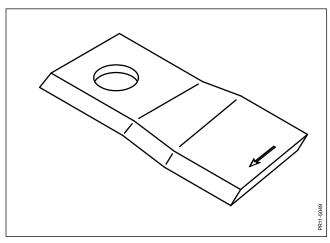


Fig. 3.10

Fig. 3.10 Twisted blades can be used on both sides by turning the blade, but it must remain on the same drum.

Please note that twisted blades are available in a left-twisted and a right-twisted version, adapted to the different direction of rotation of the drums. The blade is placed correctly if the front edge of the blade is lower than the rear edge when the drum is turned in its direction of rotation. An arrow is stamped in the blade showing the right direction. If blades are not placed correctly, it will result in cutting problems.

Defective blades should be replaced by original spare parts in order to ensure a satisfactory operation in the field.

REMEMBER: Before working with the machine, check:



- that all blades are there and correctly mounted.
- that no blades are bent or cracked.
- that all blades can turn freely around the blade bolt.

See also the section concerning blades in chapter 5 "MAINTENANCE".

ROTOR SKIRTS

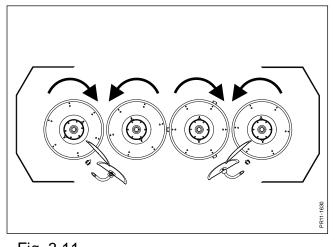


Fig. 3.11

Fig. 3.11 The rotor skirts turn towards each other in pairs to ensure the shortest way of the material through the machine and thus optimise the flow of material.

This construction ensures that the cutting is not blocked by the material and that there is no risk of secondary cutting.

NB: It is not possible to change the direction of rotation of the individual rotors.

REMEMBER: Before working with the machine, check:



- that no rotor skirts are defective.
- that no guide shoes are loose.
- that no carriers are missing on the drums.

This is important to ensure that there is no unbalance during operation since it may lead to serious damage.

WORKING IN THE FIELD

There are several important conditions to be aware of when mowing with the machine.

Theoretically, it is possible to work with a speed of 15 km/h. However, always adjust the driving speed to the conditions, i.e. the amount of crop and the conditions of the ground.

The operator should always have full control of the tractor and be able to avoid irregularities of the ground and foreign matter in front of the tractor and the machine.

Reduce the driving speed if:

- the ground is uneven or hilly
- the crop is lodged
- the crop is unusually high and thick

Increase the driving speed if:

- the crop is low and thin
- the crop contains for instance peas etc.

As mentioned earlier, it is important that you pay special attention when working on hilly ground. <u>Reduce</u> the driving speed and be aware of the movement of the machine on the ground.

On hilly ground there is a greater risk that the machine hits a bank of earth or foreign matter and you, as tractor driver, should minimise the risk of damage to the equipment.

When working with a side-mounted mower, you should be aware of the sideways stability of the tractor, especially when turning on hillsides.

Be especially aware of sudden movements and bumps against the cutting unit and reduce the driving speed considerably. If necessary, declutch, stop and examine the obstacle. (The above especially applies in stony areas).



IMPORTANT: After heavy collisions with obstacles, always check the machine for any possible damage. Especially supporting parts and the cutting parts.

REMEMBER: As long as the stubble remains uniform and the machine moves evenly and smoothly across the ground, the driving speed is correct.



DANGER: When driving along field boundaries and steep slopes, always be careful and never drive too fast, as there is a risk of foreign matter on the boundary and often varying ground conditions along steep slopes and boundaries.

During mowing make sure to keep a constant and correct number of rotations on the PTO shaft to ensure that the cutting parts work optimally.

Between the two middle drums an airflow is generated. This airflow may, under certain conditions, lay the crop down before it is harvested. This will result in a high stubble between the middle drums. To reduce this airflow, the machine is equipped with a wind guard made of synthetic material which limits the airflow. This wind guard must be kept in place and intact and be replaced if it is worn.

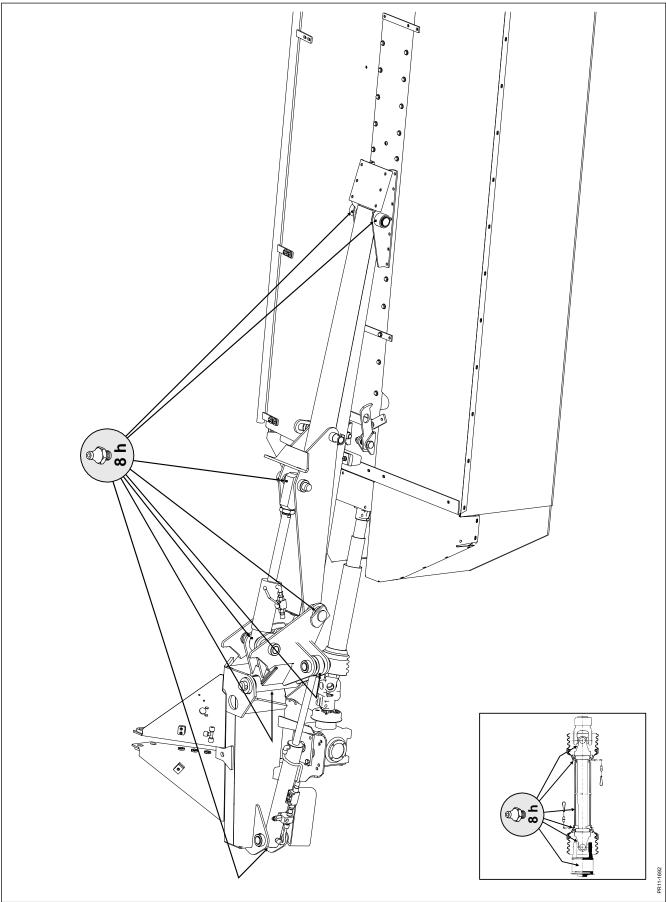
SECURING AGAINST OVERLOAD

IMPORTANT: The tractor driver can secure the transmission against overload!

When using the machine, the following should be considered:

- 1) Always start the machine with the engine running at low speed. This especially applies to tractors with electro-hydraulic connection of the PTO shaft.
- 2) The machine must be in working position when starting.
- 3) A sudden increase in the number of RPM of the machine, e.g. when driving into the field or after turning in the field should also happen with the machine lowered to working position.
- 4) Listen to the RPM of the tractor when working in the field. If the number of RPM falls slowly or is suddenly reduced it may be a sign of overload of the transmission due to too high driving speed or foreign matter in the cutting unit. In this case, the friction clutch will slip and you should disconnect the PTO immediately and let the machine "rest". If the machines is blocked or has hit an obstacle, the machine should be stopped and inspected immediately. Lower the cutting unit to the ground and remove the ignition key before the obstacle is removed.
- **NB:** It is normal that the revolving parts (rotors, drums and blades) will be noisy when starting due to the high number of rotations of the rotors (2000 rpm). The noise will be reduced when the machine starts working in the crop.

Greasing chart for the drum mower type CM305-2 Below grease points must be greased according to the operation time intervals indicated.



4. GREASING

GREASE

Always ensure that the machine has been properly greased before it starts operating.

Go through the greasing chart. The grease spots must be greased after **every 8** working hours.

TYPE OF GREASE: Universal grease of good quality. The rotor gearbox is pre-lubricated with special grease type:

SHELL ALVANIA RO

Check and refill is not necessary. When repairing <u>only</u> use this type of grease.

Rotating mechanical connections are greased with grease or oil as required.



WARNING - REMEMBER: Pay special attention to the sliding PROFILE TUBES of the PTO shafts. They must be able to slide back and forth when the torque is heavy.

If you neglect to grease the profile tubes sufficiently it will result in high axial forces which will damage the profile tubes and in time also connecting shafts and gearboxes.

BEVEL GEARBOX ON THE HEADSTOCK

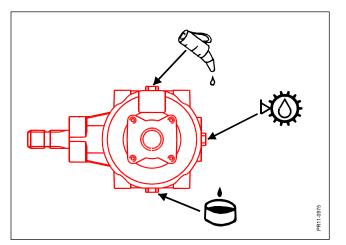


Fig. 4-1

Fig. 4-1Oil content:1000 rpm = 1.2 IOil type:API GL4 or GL5 SAE 80W-90Oil level:Check the oil level after every 80 hours of operation.Oil change:First oil change after 50 working hours and then after every 500
working hours or at least once a year.

5. MAINTENANCE

IN GENERAL



WARNING: When repairing or maintaining the machine it is especially important to ensure correct personal safety. Therefore, always park the tractor (if mounted) and the machine according to the GENERAL SAFETY RULES in the beginning of this instruction manual.



IMPORTANT: Screws and bolts on your new machine must be retightened after some hours of operation. This also applies if repairs have been made.

Fig. 5-1	Torque moment $\mathbf{M}_{\mathbf{A}}$ (if nothing else has been stated).
----------	----------------------------------------------------------------------------

Ma Ø	Class: 8.8 M _A [Nm]	Class: 10.9 M _A [Nm]	Class: 12.9 M _A [Nm]
M 8	25	33	40
M 10	48	65	80
M 12	80	120	135
M 12x1,25	90	125	146
M 14	135	180	215
M 14x1,5	145	190	230
M 16	200	280	325
M 16x1,5	215	295	350
M 18	270	380	440
M 20	400	550	650
M 20x1,5	430	615	720
M 24	640	900	1100
M 24x1,5	690	960	1175
M 30	1300	1800	2300

FRICTION CLUTCH

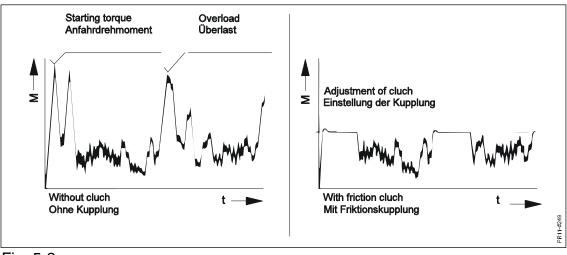
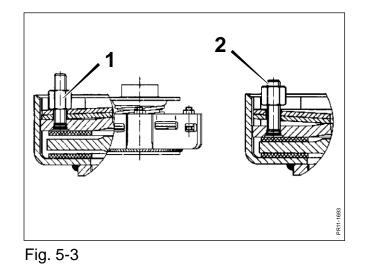




Fig. 5-2 In order to ensure a long life for your tractor and machine, the machine is delivered with a friction clutch on the PTO drive shaft between the tractor and the machine.

Fig. 5-2 illustrates how the clutch protects the transmission against high torque peaks and at the same time is capable of transmitting the torque while it slips.

The friction clutch must be maintained, i.e. it must be "aired" at regular intervals as dirt and moisture may cause the clutch to get "stuck".



- **Fig. 5-3 Before** the start of a new machine and after a long period of standstill, e.g. winter storage, the clutch is "aired" in the following way:
 - 1) The nuts **1** on the flange are tightened. Hereby the springs are compressed so that they do not press on the clutch plates and the clutch can rotate freely.
 - 2) Let the clutch rotate for 30 seconds. This removes dirt and possible rust on the plates.
 - 3) The nuts are turned back to the end of the thread **2** and the springs can again press on the clutch plates.

CONTROL OF BALANCE



WARNING: When driving in the field you must always pay attention if the machine starts vibrating more than usually or if it has jarring sounds.

The discs run at up to 2000 RPM, and one broken blade may cause serious injury to persons or material damage resulting from unbalance.

If working with a modern closed cabin the symptoms may be difficult to discover, and once in a while you have to get out and check if all blades are intact.

In the long run unbalance may cause fatigue fractures and serious damage.

All machines manufactured by JF are tested and checked for vibrations with special tools.

The first time you start the machine pay attention to vibrations and noise to have a standard of comparison later.

BLADES

When replacing blades, the cutting unit must be lowered to the ground or secured mechanically by means of stop blocks or support chains. The blades must be replaced in sets to avoid unbalance.

To obtain satisfactory cutting it is important that blades are intact and sharp. If the blades are not sharp the power requirement will increase unnecessarily and the cut will be unclean resulting in slow regrowth of the grass.

The blades have two cutting edges and can thus be worn on two sides.

- Remove straight blades to the neighbouring rotor.
 - Turn twisted blades.

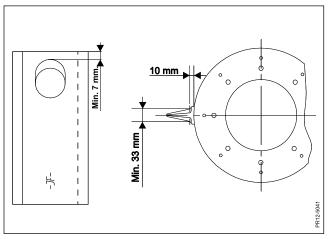


Fig. 5-4

- **Fig. 5-4** Blades must be replaced if:
 - 1) they are bent or cracked,
 - 2) the blade width is less than 33 mm measured 10 mm from the edge of the rotor skirt.
 - 3) The metal thickness around the blade hole is less than 7 mm.

Blade holders must also be checked regularly. Especially after collision with foreign matter, after replacement of blades and the first time you use the machine.

BLADE HOLDERS

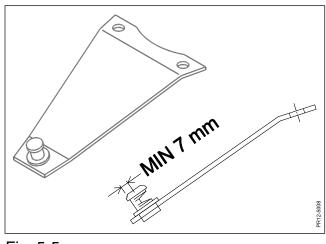
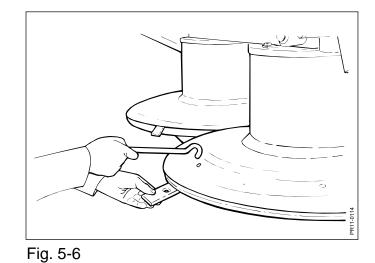
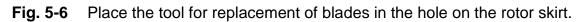


Fig. 5-5

- Fig. 5-5 Replace blade holders if:
 - 1)
 - They are deformed The diameter of the blade pin is less than 7 mm. 2)

REPLACEMENT OF BLADES





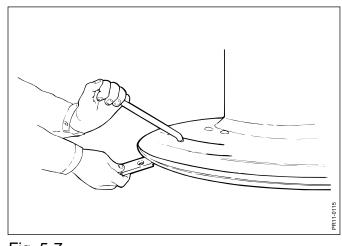




Fig. 5-7 Turn it halfway around and release the blade by pulling towards yourself. Remove the old blade and mount the new one by moving the tool away from you.



WARNING: After replacing blades, blade bolts, rotors etc., check that no tools have been left on the machine.

CONDITION OF THE ROTOR SKIRTS

If the edges in front of the blades are deformed/worn, the blade holders can be moved to a new position. **All** blade holders must be removed.

CARRIERS/DRUMS

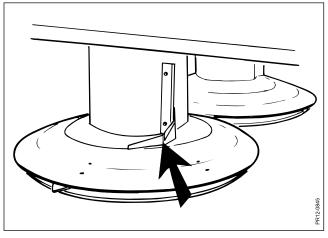


Fig. 5-8

Fig. 5-8 Check that carriers on the drums are in place and intact. The drums can be deformed by stones and the like. If this results in unbalance, they must be replaced. (Unbalance can be due to accumulation of dust, seeds and the like in the drums.)

6. MISCELLANEOUS

DRIVING TIPS AND FAULT-FINDING

Problem	Possible cause	Remedy
Uneven stubble or bad cut	The cutterbar ground pressure is too light.	Check the basic adjustment of the machine and, if necessary, reduce the relief.
	The number of rpm of the tractor is too low.	Check that the number of rotations of the tractor PTO is correct. Keep a constant number of RPM
	The blades are worn	Turn/move the blades to another rotor or replace the blades.
Stripes in stubble	The cutting angle is too big.	Adjust the cutter bar more horizontal by adjusting the top link
		Increase the driving speed, if possible
	The blades are worn	Turn/move the blades to another disc or replace the blades
	You are working early in the morning when the grass is still very wet	Increase the driving speed, if possible
The machine vibrates/ uneven operation	Blades or carriers may be deformed, damaged or missing	Replace damaged parts and mount new ones where these are missing
	Defective PTO drive shafts	Check if the shafts are intact. Repair, if necessary
	Rotors or drums are deformed	Replace deformed parts.
	Defective bearings in rotor or guide shoes	Check if bearings are loose or damaged. Replace if necessary
	Earth and grass in drums and rotor skirts.	Clean drums and rotor skirts

The following points are instructions how to prepare for winter storage.

- Check the machine for wear and other defects. Note down the wearing parts needed before the next season and order the spare parts.
- Dismount, clean and lubricate the PTO shafts. Remember to grease the profile tubes. The PTO shaft must be kept in a dry place.
- Spray the machine with a thin coat of rust-preventing oil. This is especially important on the parts polished with use.
- Store the machine in a ventilated engine house.

7. OPTIONAL EQUIPMENT

SWATH DISCS

The swath discs make sure that a swath of a given width is gathered in the middle and can pass under the tractor.

The required swath width will depend on the machines which are going to work in the crop afterwards.

The swath width is determined by the inclination of the swath discs in relation to the direction of travel. The larger the swath disc angle, the smaller the swath width.

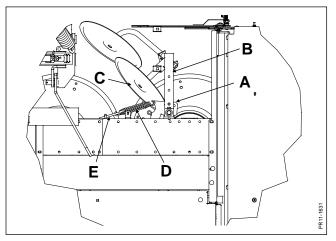


Fig. 7-1

Fig. 7-1 The swath discs are held in their position by means of an adjusting spring **D** which will allow the discs to move to the rear in case of foreign matter in the field. However, there must be a minimum initial tension of the spring to ensure the swath width and make sure that the swath discs do not collide with the front wheels of the tractor.

It is recommended to have <u>minimum 30 mm free thread</u> at the eye bolt which is tensioning the spring.

It is also recommended that the arm which is holding both swath discs **B**, is placed at an angle of 90 degrees in relation to the gearbox when the spring holder **A** stops against the same gearbox. The spring holder is fastened to the arm by a bolt and therefore certain adjustments are allowed.

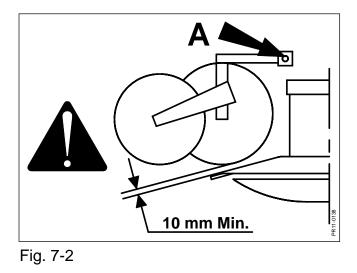


Fig. 7-2 Finally, it is important to ensure there is <u>a safety distance of minimum 10 mm</u> to the rotating parts.

ADJUSTMENT OF THE CUTTING HEIGHT

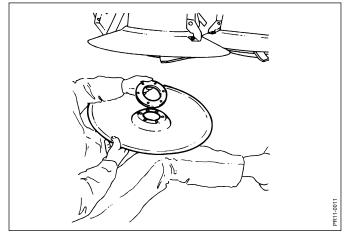
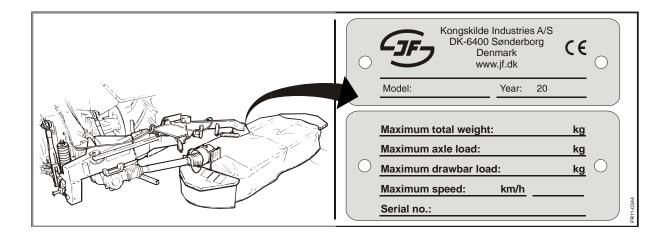




Fig. 7-3 A higher cutting height can be obtained by mounting additional spacers between hub and guide shoes.

SPARE PARTS ORDER

When ordering spare parts, please state machine type and serial number. This information is printed on the machine plate. We request you to write this information on the first page in the spare parts book supplied with the machine as soon as possible so that you have the information at hand when ordering spare parts.



MACHINE DISPOSAL

When the machine is worn-out it must be disposed of in a proper way. Observe the following:

- The machine must not be placed somewhere outside, it must be emptied of oil (gearboxes and hydraulic system). These oils must be handed over to a destruction company.
- Disassemble the machine and separate the individual recycling parts, e.g. tyres, hydraulic hoses, hydraulic valves etc.
- Hand over the usable parts to an authorised recycling centre. The large scrapping parts are handed over to an authorised breaker's yard.

WARRANTY

Kongskilde Industries A/S, 6400 Sønderborg, Denmark, hereafter called **"Kongskilde"**, grants warranty to any buyer of new JF machines from authorized 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 Kongskildes written permission.
- 7. Unskilled repair of the machine.
- 8. Non-original spare parts have been used.

Kongskilde 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. Nor is Kongskilde responsible for wages beyond current agreements in connection with replacement of warranty parts.

Kongskilde 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 Kongskilde has committed a fault.

The following is regarded as wearing parts:

Protective canvases, blades, blade suspensions, wearing bars, guide shoes, stone protections, discs, rotor skirts, crimper parts, tyres, tubes, brake shoes, chain tightening parts, guards, hydraulic hoses, conveyors, vertical auger and tub, 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, chute liner 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 a 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 Kongskildes written permission.
- 3. The warranty can be nullified if repair is not undertaken immediately.

- EN EC-Declaration of Conformity ng to Directive 2006/42/
- DE EG-Konformitätserklärung entsprechend der EG-Richtlinie 2006/42/EG
- Dichiarazione CE di Conformità IT ai sensi della direttiva 2006/42/CE
- NL EG-Verklaring van conformiteit reenstemming met Machinerichtlijn 2006/42/EG
- FR Déclaration de conformité pour la CE conforme à la directive de la 2006/42/CE
- NO EF-samsvarserklæring i henhold til 2006/42/EF
- CZ ES prohlášení o shodě podle 2006/42/ES



Kongskilde Industries A/S Linde Allé 7 DK 6400 Sønderborg Dänemark / Denmark Tel. +45-74125252

CM 305

- We declare under our sole responsibility, that the product: EN
- DE Wir erklären in alleiniger Verantwortung, dass das Produkt:
- IT Noi Dichiara sotto la propria responsabilità che il prodotto:
- NI Wij verklaren als enig verantwoordelijken,dat het product:
- FR Nous déclarons sous notre seule responsabilité que le produit:
- Herved erklærer vi. at: NO CZ
- Prohlašujeme tímto, že:

Vi declaramos bajo resposibilidad propia que el producto: ES

ES CE Declaración de Conformidad

Declaração de conformidade

DA EF-overensstemmelseserklæring

edlug Dyrektywy Maszynowej 2006/42/W

EÜ vastavusdeklaratsioon

EY : N Vaatimustenmukaisuusilmoitus

EG-försäkran om överensstämmelse

ún la normativa de la 2006/42/

henhold til EF-direktiv 2006/42/EF

PL Deklaracja Zgodności WE

täyttää EY direktiivin 2006/42/EY

enligt 2006/42/EG

vastavalt 2006/42/EÜ

conforme a norma da C.E.E. 2006/42/CE

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FT

- Me declaramos com responsabilidade prógria que o produto: PT
- DA Vi erklærer på eget ansvar, at produktet:
- Ы Nosotros deklarujemy z pelną odpowiedzialnością, iż produkt:
- FL Nós ilmoitamme yksin vastaavamme, että tuote:
- Härmed förklarar vi att: sv
- Käesolevaga kinnitame, et: ΕT

- EN to which this declaration relates corresponds to the relevant basic safety and health requirements of the Directive: 2006/42/EC
- DE auf das sich diese Erklärung bezieht, den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der EG-Richtlinie entspricht: 2006/42/EG
- IT E' Conforme ai Requisiti Essenziali di Sicurezza a di tutela della Salute di cui alla Direttiva e sue successive modificazioni: 2006/42/CE
- NL waarop deze verklaring betrekking heeft voldoet aan de van toepassing zijnde fundamentele eisen inzake veiligheid en gezondheid van de EG-machinerichtlijn no: 2006/42/EG
- FR faisant l'objet de la déclaration est conforme aux prescriptions fondamentales en matière de sécurité et de santé stipulées dans la Directive de la: 2006/42/CE
- NO er i overensstemmelse med alle relevante bestemmelser i Maskindirektivet 2006/42/EF.
- odpovidá všem příslušným ustanovením ES směrnice o strojích CZ . 2006/42/ES

- ES al cual se refiere la presente declaración corresponde a las exigencias básicas de la normativa de la y referentes a la seguridad y a la sanidad: 2006/42/CE
- PΤ a que se refere esta declaração corresponde às exigencias fundamentais respectivas à segurança e à saúde de norma da C.E.E.: 2006/42/CE
- DA som er omfattet af denne erklæring, overholder de relevante grundlæggende sikkerheds- og sundhedskrav i EF-direktiv: 2006/42/EF
- PL dla którego się ta deklaracja odnosi, odpowiada właściwym podstawowym wymogom bezpieczeństwa i ochrony zdrowia Dyrektywy Maszynowej: 2006/42/WE
- FI johon tämä ilmoitus liittyy, vastaa EY direktiivissä mainituja perusturvallisuus- ja terveysvaatimuksia (soveltuvin osin) sekä muita siihen kuuluvia EY direktiivejä: 2006/42/EY
- överensstämmelse med alla hithörende bestämmelser i EG:s SV maskindirektiv 2006/42/EG
- ET vastab kõigile EÜ masinadirektiivi 2006/42/EÜ asiakohastele sätetele.



Konstruktion (Design) Sønderborg, 26.09.2011 Ole Skau



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- EN EC-Declaration of Conformity rding to Directive 2006/42/EC
- ВG ЕО-декларация за съответствие съгласно лиректива 2006/42/ЕО.
- RO Declarația de conformitate CE în conformitate cu 2006/42/CE
- SK ES prehlásenie o zhode Podľa 2006/42/ES
- SL ES-izjavo o skladnosti na podlagi Direktive 2006/42/ES
- HU EK-megfelelőségi nyilatkozatra a 2006/42/EK

- MT Dikjarazzjoni tal-Konformità tal-KE
- LT EB atitikties deklaracijos pagal 2006/42/EB
- TR AT Uygunluk Beyani 2006/42/AT göre
- EL ΕΚ-Δήλωση συμμόρφωσης σύμφωνα με την οδηγία 2006/42/ΕΚ,
- LV EK atbilstības deklarācijas sastādīšanai saskanā ar Direktīvas 2006/42/EK

- ΕN We declare under our sole responsibility, that the product:
- BG С настоящото декларираме, че
- RO Prin prezenta declarăm faptul că:
- SK Prehlasujeme týmto, že:
- SI Izjavljamo, da je
- HU Kijelentjük, hogy a/az:

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Kongskilde Industries A/S

Linde Allé 7

- Għalhekk aħna niddikjaraw li I-MT
- LT Šiuo mes deklaruojame, kad
- TR lş bu beyanla, aşağida tanımlı makinenin: FI Με την παρούσα δηλώνουμε, ότι
- Ar šo mēs apliecinām, ka: LV

CM 305

- EN to which this declaration relates corresponds to the relevant basic safety and health requirements of the Directive: 2006/42/EC
- BG съответства на всички релевантни разпоредби на директива: 2006/42/EO
- RO este în conformitate cu toate dispozițiile relevante ale Directivei 2006/42/CE privind echipamentele tehnice
- zodpovedá všetkým príslušným ustanoveniam ES smernice o strojoch SK 2006/42/ES
- SL skladen z vsemi ustreznimi določbami Direktive o strojih 2006/42/ES
- HU a 2006/42/EK gépekre vonatkozó irányelv valamennyi vonatkozó rendelkezésével megegyezik.

- MT Jissodisfa d-dispożizzjonijiet kollha rilevanti tad-Direttiva: 2006/42/KE
- LT atitinka visas atitinkamas EB Mašinų direktyvos 2006/42/EB nuostatas.
- TR 2006/42/AT sayılı AT Makine direktifinin tüm ilgili hükümlerine uygun olduğunu teyit ederiz.
- Συμφωνεί με όλους τους σχετικούς κανόνες της ΕΚ- οδηγίας μηχανημάτων 2006/42/ΕΚ. EL
- LV atbilst visiem attiecīgajiem EK Mašīnu direktīvas 2006/42/EK noteikumiem.

Konstruktion (Design) Sønderborg, 26.09.2011 Ole Skau



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