
JF-STOLL

Disc Mower

GX 2402 SM/SC | GX 2802 SM/SC | GX 3202 SM



Instruction Manual

“Original instructions”
Edition 6 | April 2010

EN EC-Declaration of Conformity
according to Directive 2006/42/EC

DE EG-Konformitätserklärung
entsprechend der EG-Richtlinie 2006/42/EC

IT Dichiarazione CE di Conformità
ai sensi della direttiva 2006/42/EC

NL EG-Verklaring van conformiteit
overeenstemming met Machinerichtlijn 2006/42/EC

FR Déclaration de conformité pour la CEE
conforme à la directive de la 2006/42/EC

ES CEE Declaración de Conformidad
según la normativa de la 2006/42/EC

PT Declaração de conformidade
conforme a norma da C.E.E. 2006/42/EC

DA EF-overensstemmelseserklæring
i henhold til EF-direktiv 2006/42/EC

PL Deklaracja Zgodności CE
według Dyrektywy Maszynowej 2006/42/EC

FI EY : N Vaatimustenmukaisuusilmoitus
täyttää EY direktiivin 2006/42/EC

EN We,
DE Wir,
IT Noi,
NL Wij,
FR Nous,
ES Vi,
PT Me,
DA Vi,
PL Nosotros,
FI Nöns,

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EN declare under our sole responsibility, that the product:
DE erklären in alleiniger Verantwortung, dass das Produkt:
IT Dichiaro sotto la propria responsabilità che il prodotto:
NL verklaren als enig verantwoordelijken, dat het product:
FR déclarons sous notre seule responsabilité que le produit:

ES declaramos bajo responsabilidad propia que el producto:
PT declaramos com responsabilidade própria que o produto:
DA erklærer på eget ansvar, at produktet:
PL deklarujemy z pełną odpowiedzialnością, iż produkt:
FI ilmoitamme yksin vastaavamme, että tuote:

EN Model:
DE Typ :
IT Tipo :
NL Type :
FR Modèle :
ES modelo :
PT Marca :
DA Typ :
PL Model :
FI Merkki :

GX 2402 SC
GX 2402 SM
GX 2802 SC
GX 2802 SM
GX 3202 SM

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 2006/42/EC

IT E' Conforme ai Requisiti Essenziali di Sicurezza a di tutela della Salute di cui alla Direttiva e sue successive modificazioni: 2006/42/EC

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/EC

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/EC

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/EC

PT a que se refere esta declaração corresponde às exigências fundamentais respectivas à segurança e à saúde de norma da 2006/42/EC

DA som er omfattet af denne erklæring, overholder de relevante grundlæggende sikkerheds- og sundhedskrav i EF-direktiv sam: 2006/42/EC

PL dla którego się ta deklaracja odnosi, odpowiada właściwym podstawowym wymogom bezpieczeństwa i ochrony zdrowia Dyrektywy Maszynowej: 2006/42/EC

FI johon tämä ilmoitus liittyy, vastaa EY direktiivissä mainittuja perusturvallisuus- ja terveysvaatimuksia (soveltuvien osin) sekä muita siihen kuuluvia EY direktiivejä: 2006/42/EC



Konstruktion (Design) + Produktion (Production)
Sønderborg, 15.12.2009 Jørn Freudendahl

FOREWORD

DEAR CUSTOMER!

We appreciate the confidence you have shown our company by investing in a JF-product and congratulate you with your new machine. 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 on the time of publication.

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

The disc 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 stones and foreign matter.

Any use beyond this is outside the intended use. JF-Fabriken 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 JF-Fabriken A/S, JF-Fabriken A/S cannot be held responsible for any damage resulting from this.

Intended use, of course, implies that you observe the prescriptions 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 disc mowers should only be used, maintained and repaired 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-Fabriken's development work. **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. However, damage can occur as a consequence of misuse and insufficient instruction.

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 machine demands skilled operation, which means that **you should read the instruction manual before you connect the machine to the tractor**. 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 himself 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 oneself and others against serious injuries.

1. INTRODUCTION

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 mower 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.

WORKING

- 6 During work never wear loose clothes which can be pulled in by the moving parts of the machine.
- 7 Use hearing protectors if the tractor has not been silenced sufficiently.
- 8 Make sure that all guards are intact and have been mounted correctly.
- 9 When connecting the PTO drive shaft, check for 540/1000 rpm.
- 10 Never start the tractor until all persons are safely away from the machine.
- 11 Do not stand near the machine while it is working.
- 12 Stop the machine if children are near.
- 13 Never use the machine for other purposes than what it has been constructed for.
- 14 Do not stand near – or try to lift a guard – until all revolving parts have stopped moving. This also applies when adjusting the machine!
- 15 Always disengage the PTO drive shaft, activate the parking brake and stop the tractor engine before you adjust the machine.

MAINTENANCE

- 16 Never work under the machine unless it is secured by means of stop blocks or other mechanical securing device.
- 17 Always block the tractor wheels before working under the machine.
- 18 Always disengage the PTO drive shaft, activate the parking brake and stop the tractor engine before you
 - lubricate the machine,
 - clean the machine,
 - disassemble any part of the machine,
 - adjust the machine.
- 19 Remember to remove all tools before starting the tractor again.

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 disc mower.

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

1. INTRODUCTION

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 driving on public road.

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 discs for cracks and other damage. Replace damaged blades and discs.

Check periodically if blades and blade bolts 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 discs 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).

1. INTRODUCTION

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.

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 spring-loaded 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 to the correct torque.

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

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-Fabriken 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 discs run at up to 3000 RPM, even the slightest unbalance will cause vibrations which may lead to fatigue fractures.

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

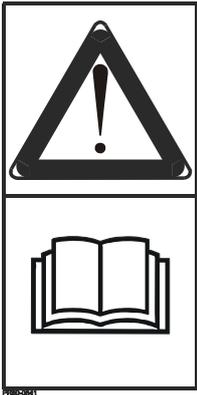
During the season check daily that no blades, carriers or bolts are missing. If any of these are missing, mount new parts immediately.

Clean caps (if mounted) and flow intensifiers of earth and grass regularly.

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

1. INTRODUCTION

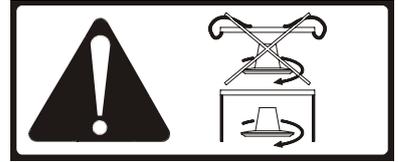
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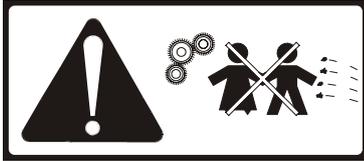
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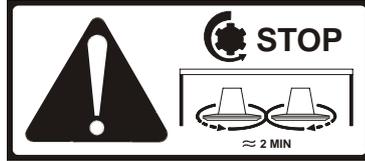
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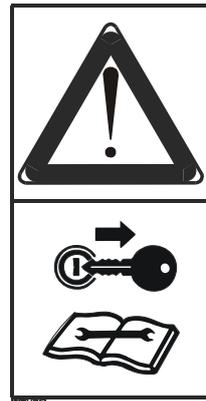
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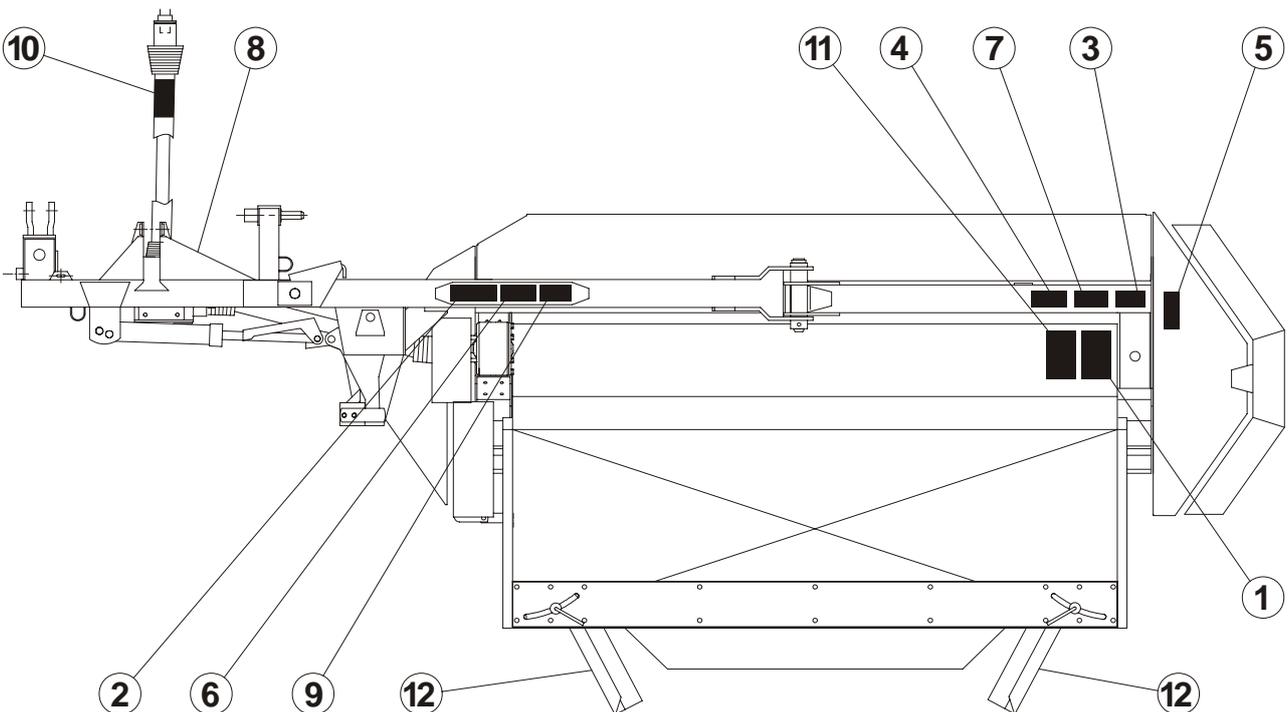
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SAFETY DECALS

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. Unintentional manoeuvres and misuse may cause serious personal 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**
Almost the same meaning as 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 Momentum**
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 Stones being thrown from the conditioner**
The conditioner rotor runs with a high number of RPM and stones on the ground can be thrown up to 10 m backwards at a very high speed. Therefore, always make sure that nobody is standing near the machine when it is working.

TECHNICAL DATA (GX-SC)

		GX 2402 SC	GX 2802 SC
Working width	[m]	2,4	2,8
Capacity	[Ha/h]	2,4 - 2,8	2,6 - 3,0
Power requirement on PTO	[kW/HP]	Minimum 44/60	Minimum 54/73
PTO (Standard)	[rpm]	540	540
PTO (Variant)	[rpm]	1000	1000
Suspension (Standard)		Cat. II	Cat. II
Hydraulic outlets		1 double-acting	1 double-acting
Weight	[kg]	980	1080
Ground pressure	[kg]	50 - 60	60 - 70
Driving speed	[km/h]	8 – 15	8 – 15
Number of discs	[pcs.]	6	7
Number of blades	[pcs.]	12	14
Variable stubble height	[mm]	45 - 90	45 - 90
Swath width interval	[m]	1,0 – 2,2	1,2 – 2,6
Transport width	[m]	< 3	< 3
Conditioner	Type	Rubber rollers (Chevron)	Rubber rollers (Chevron)
	Speeds [rpm]	1000	1000
Stone release, mechanical		Standard	Standard
Freewheel clutch		Standard	Standard
Friction clutch		Option	Option
Setting on friction clutch	[Nm]	1450	1450
Noise level in the tractor cabin	Machine connected	Window closed	76.5 dB (A)
		Window open	82.5 dB (A)
	Machine disconnected	Window closed	76.5 dB (A)
		Window open	78 dB (A)

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

1. INTRODUCTION

TECHNICAL DATA (GX-SM)

		GX 2402 SM	GX 2802 SM	GX 3202 SM
Working width	[m]	2,4	2,8	3,2
Capacity	[Ha/h]	2,4 – 2,8	2,6 - 3,0	2,8 - 3,2
Power requirement on PTO	[kW/HP]	Minimum 44/60	Minimum 54/73	Minimum 66/90
Power take-off (PTO)	[rpm]	540	1000	1000
Suspension (Standard)		Cat. II	Cat. II	Cat. III
Hydraulic outlets		1 double-acting	1 double-acting	1 double-acting
Weight	[kg]	850	950	1050
Ground pressure	[kg]	50 - 60	60 - 70	70 - 80
Driving speed	[km/h]	8 - 15	8 – 15	8 – 15
Number of discs	[pcs.]	6	7	8
Number of blades	[pcs.]	12	14	16
Variable stubble height	[mm]	45 - 90	45 - 90	45 - 90
Swath width interval	[m]	1,0 – 2,4	1,2 – 2,8	1,4 – 3,2
Transport width	[m]	< 3	< 3	< 3
Conditioner	Type	PE-fingers	PE-fingers	PE-fingers
	Speeds [rpm]	700 / 860 (Standard)	700 / 860 (Standard)	700 / 860 (Standard)
Wide spreading, Top Dry		Standard	Standard	Standard
Stone release, mechanical		Standard	Standard	Standard
Freewheel clutch		Standard	Standard	Standard
Friction clutch		Option	Option	Standard
Setting on friction clutch	[Nm]	1200	1200	1200
Noise level in the tractor cabin	Machine connected	Window closed	76.5 dB (A)	
		Window open	82.5 dB (A)	
	Machine disconnected	Window closed	76.5 dB (A)	
		Window open	78 dB (A)	

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

2. CONNECTION AND TEST DRIVING

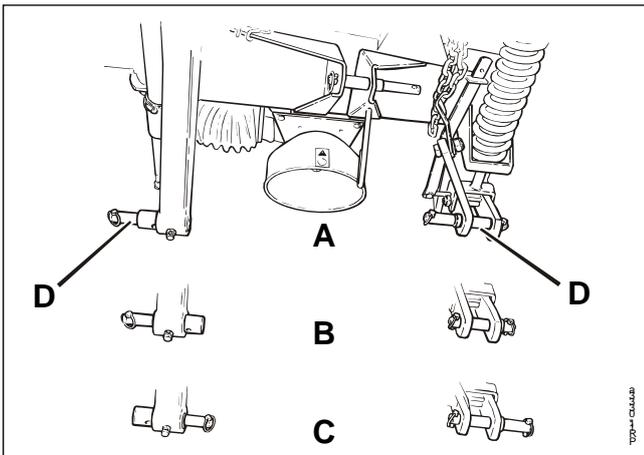


Fig. 2-1

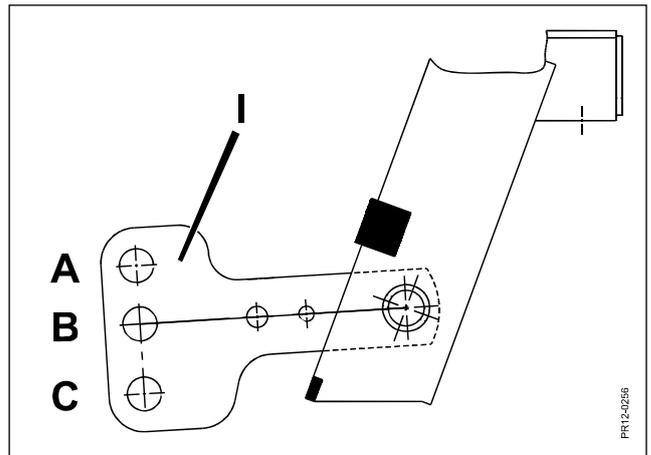


Fig. 2-2

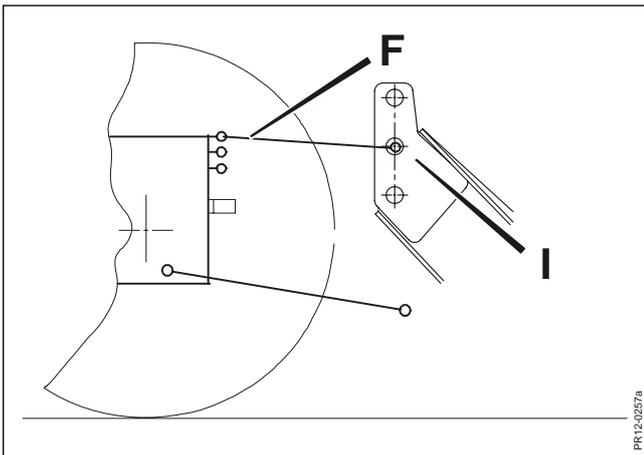


Fig. 2-3

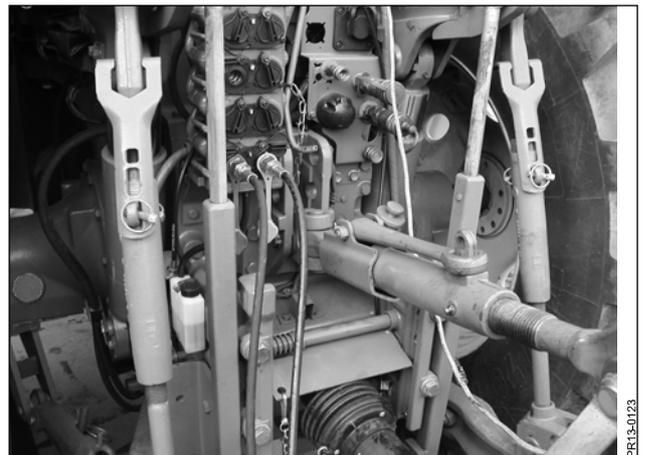


Fig. 2-4

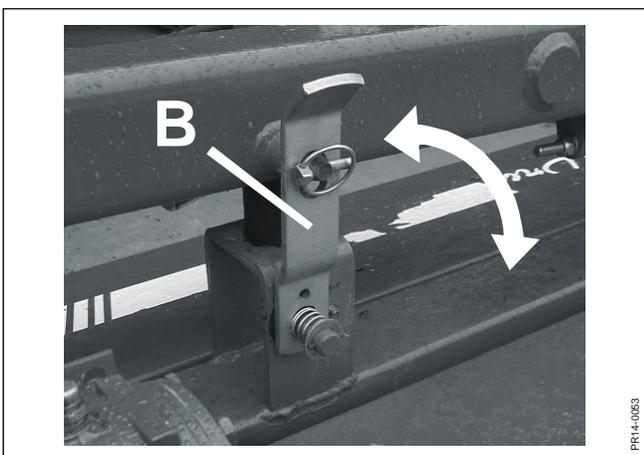


Fig. 2-5

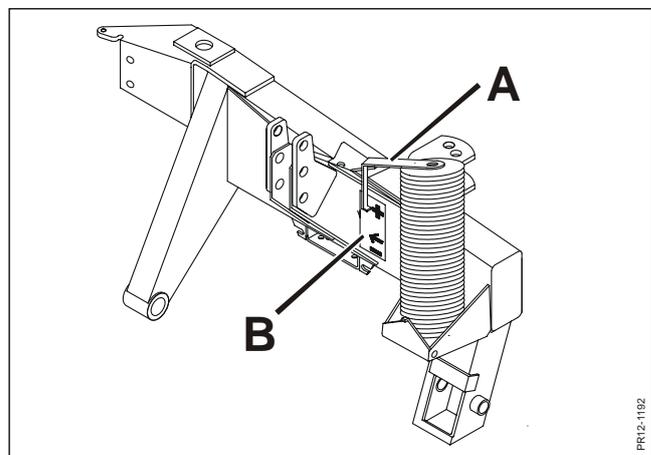


Fig. 2-6

2. CONNECTION AND TEST DRIVING

CONNECTION TO THE TRACTOR

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

Fig. 2-1 You can choose between 3 settings (**A**, **B** and **C**) of the pins on the headstock corresponding to the following track width sizes.

Track width [mm]	Pin position
< 1650	A
1650 – 1850	B
> 1850	C

The adjustment of the pins is made by loosening and adjusting the fixed pin and adjusting the loose pin according to fig. 2-2.

Fig. 2-2 Choose middle hole **B** in the lever arm **I** at the left coupling point.



WARNING: Category III link arms can in hole **A** break the spring tightener

Fig. 2-1 Connect the link arms of the tractor to the coupling points **D** of the machine.

Fig. 2-3 Mount the top link **F** 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 to a double-acting hydraulic outlet. Place the machine in working position by first raising the link arms, then activate the double-acting outlet, and at the same time actuate the valve by pulling the cord.

Fig. 2-5 Release the transport lock **B**.

Fig. 2-6 Adjust the relief of the machine as follows:

- 1) Place the handle for the double-acting hydraulic outlet in floating position.
- 2) Raise/lower the link arms of the tractor until the indicator **A** is on level with the arrow on the transfer **B**.
- 3) Lock the link arms in this position.

A lighter machine (lower ground pressure) is obtained by raising the link arms so the indicator **A** moves approximately 1 cm down towards + on the transfer **B**.

A heavier machine (higher ground pressure) is obtained by lowering the link arms so the indicator **A** moves approximately 1 cm up towards - on the transfer **B**.

2. CONNECTION AND TEST DRIVING

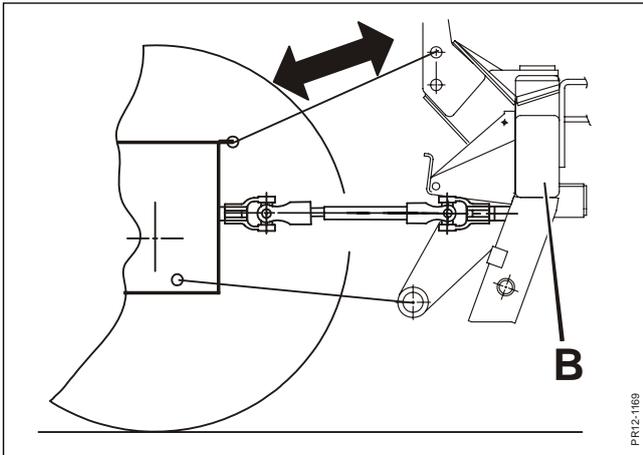


Fig. 2-7

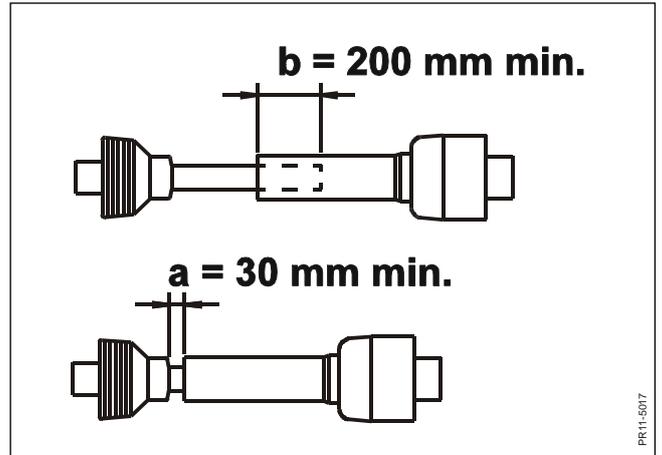


Fig. 2-8

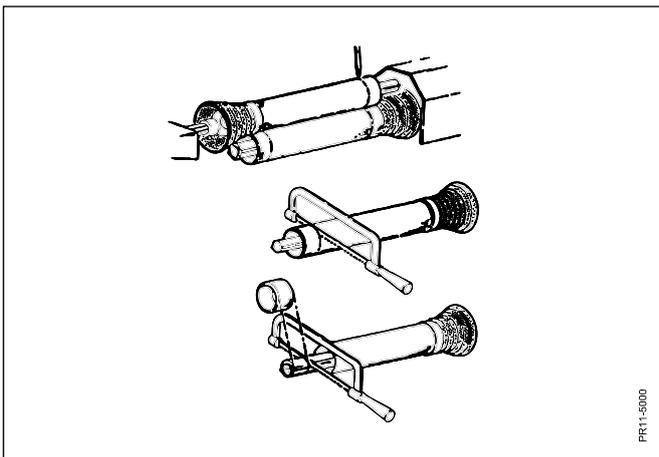


Fig. 2-9

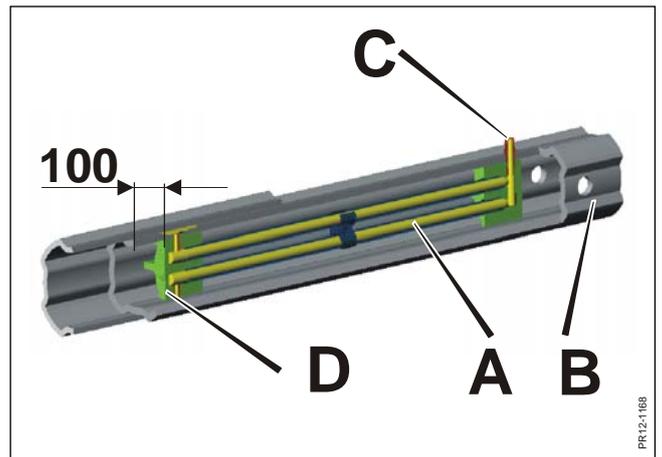


Fig. 2-10

2. CONNECTION AND TEST DRIVING

Fig. 2-7 Adjust the length of the top link so the headstock **B** is vertical.

Fig. 2-8 Adjust the length of the PTO drive shaft so that it in working position has minimum 200 mm overlapping on the profile tubes, in no position is compressed more than the prescribed 30 mm in order not to bottom the shaft, and in the longest position has minimum 100 mm overlap.

Fig. 2-9 Fasten the PTO drive shaft half parts to PTO and PIC, respectively, when these are at the same horizontal level and opposite each other (the shortest distance on this machine). Hold the shaft ends parallel to each other and mark the 30 mm (minimum).



CAUTION: Shorten all 4 tubes equally. The ends of the profile tubes **MUST** be rounded off outside and inside. Burrs **MUST** be removed carefully. Grease the tube carefully before reassembling. If the shafts are not greased, they are exposed to big friction forces if e.g. the shock absorbing system is activated during the transmission of heavy load.

Fig. 2-10 The PTO shaft has an internal greasing system **A** which makes it possible to grease the profile tubes **B** at **C** without disassembling the shaft. Due to this greasing system you can shorten the shaft 100 mm maximum, which is the distance to the grease bush **D**. In extreme cases where further shortening is necessary, you have to shorten at the other side of the bush, and the greasing system must be dismantled. After this the tubes are greased by disassembling the 2 half parts.



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, must only take place with the PTO shaft in a position of maximum 10° from horizontal.
- Last, but not least: Grease the PTO shaft and especially its profile tubes every 8 working hours, minimum.

FRICION CLUTCH

On some models the PTO shaft has an integral friction clutch. Its purpose is to secure the transmission against overload when working in the field and when starting the machine (connection of the power take-off (PTO)). The friction clutch must be “aired” before starting a new machine. See section 5. MAINTENANCE – FRICTION CLUTCH, and do this during test driving.

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.

3. ADJUSTMENTS AND DRIVING

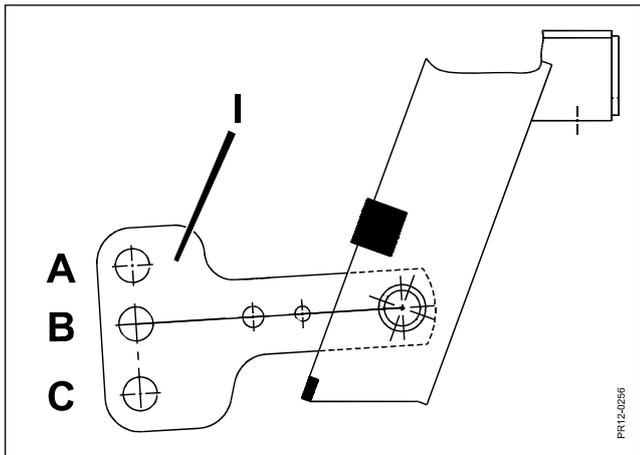


Fig. 3-1

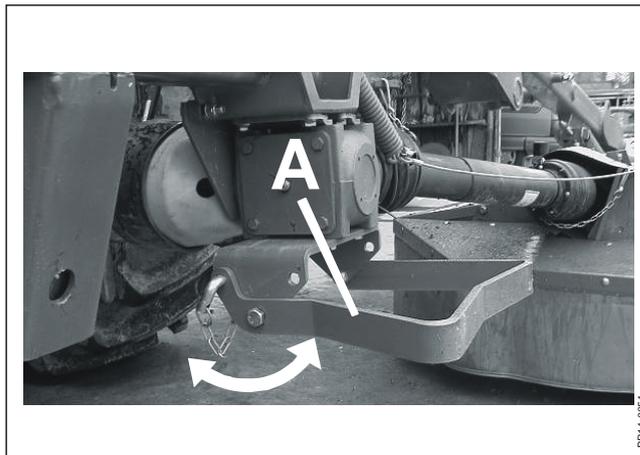


Fig. 3-2

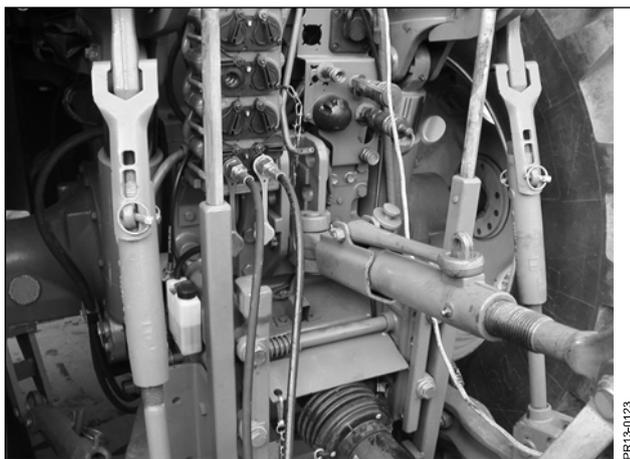


Fig. 3-3

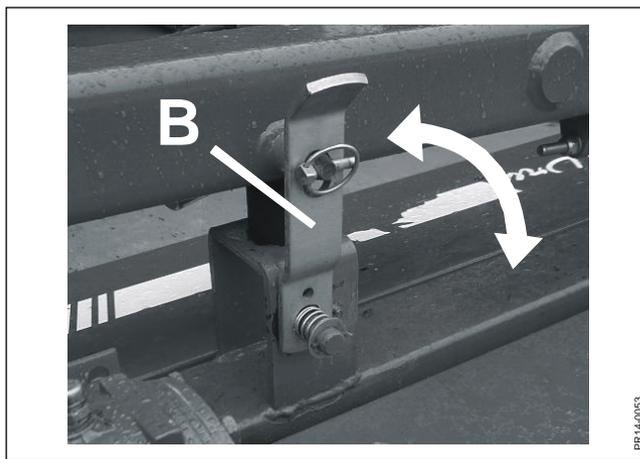


Fig. 3-4



Fig. 3-5



Fig. 3-6

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 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. Choose middle hole **B** in the lever arm **I** at the left coupling point.

Fig. 3-1



WARNING: Category III link arms can in hole **A** break the spring tightener

Fig. 3-2
Fig. 3-3

- 4) Mount the top link. It should be approximately parallel with the link arms.
- 5) Raise the link arms so that the jack **A** can be lifted.
- 6) Connect the hydraulic hoses to a double-acting hydraulic outlet.

SWITCHING BETWEEN WORKING AND TRANSPORT POSITION

- Fig. 3-4 The transport lock **B** is released for working position and 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. 3-4 The pendulum suspension must be locked with the transport lock **B** during transport to avoid traffic damage, but also to prevent that the PTO shaft bottoms during transport.



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.

- Fig. 3-5 The machine is equipped with a valve that only allows switching between transport and working position when it is actuated.

- Fig. 3-6 Switching: With the machine raised activate the hydraulic outlet and at the same time actuate the valve by pulling the cord.

3. ADJUSTMENTS AND DRIVING

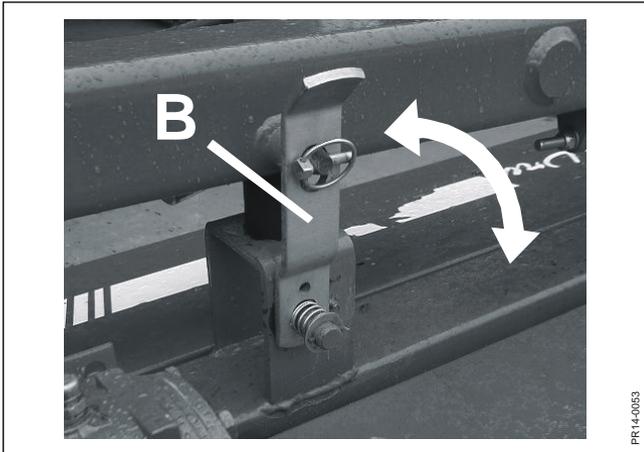


Fig. 3-7

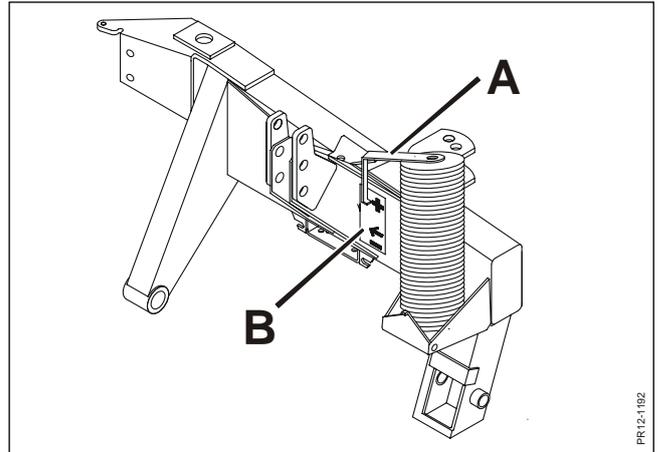


Fig. 3-8

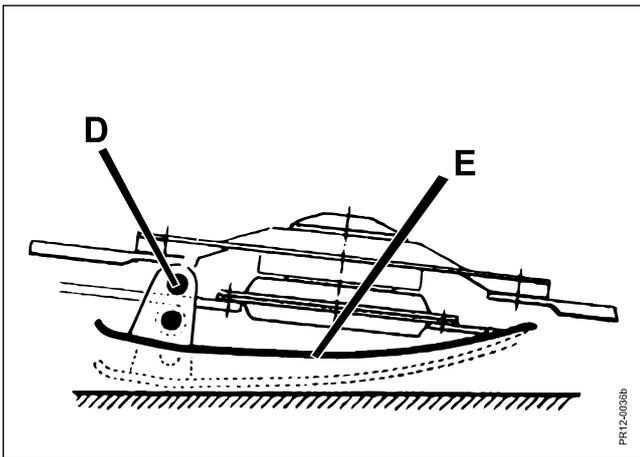


Fig. 3-9

PARKING

- Fig. 3-7**
- 1) Release the transport lock **B**.
 - 2) Lower the link arms so that the top link can be disconnected from the headstock.
 - 3) Lower the jack of the machine.
 - 4) Disconnect hydraulic hoses and the PTO shaft from the tractor.
 - 5) Lower the link arms until the machine rests on the ground, release the link arms and drive the tractor away.

WORKING IN THE FIELD

BASIC ADJUSTMENTS

- Fig. 3-7** Raise the machine.
The machine must be in working position with the transport lock **B** released. Actuate the valve by pulling the cord and move the machine to working position beside the tractor.
Lower the machine.

- Fig. 3-8** Adjust the double-acting hydraulic outlet to floating position. Raise/ lower the link arms until the machine is at the correct working height. This is obtained when the indicator **A** is at level with the arrow on the transfer **B** as described in chapter 2.



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

STUBBLE HEIGHT

From the factory the machine is constructed to cut with a theoretical cutting height from 22 mm to 45 mm. This means that the real stubble height will be from approximately 45 mm to 90 mm.
(Usually the stubble height is 2 x theoretical cutting height.)

- Fig. 3-9** Rough adjustment of the stubble height is made in 2 steps with the pin **D** at guide shoe **E** in the right and left-hand side (the bottom hole gives a low stubble). Fine adjustment is made by lengthening or shortening the top link.
If you want an extra high stubble, e.g. when topping fallow fields, high guide shoes which are available as optional equipment can be mounted. See spare parts book.



IMPORTANT: To reduce the wear of blades and discs and to improve the possibility of regrowth, the stubble should never be lower than 60 mm.
In stony fields, adjust the stubble height to maximum and be particularly careful.

STARTING



CAUTION: Before starting check that the guards are intact and that no persons are near.

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.

3. ADJUSTMENTS AND DRIVING

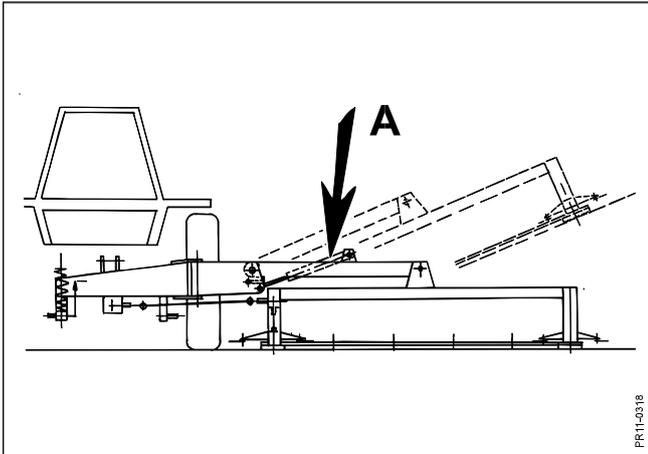


Fig. 3-10

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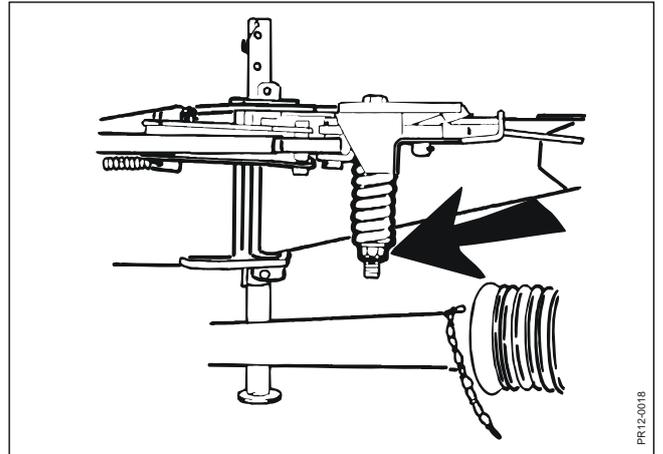


Fig. 3-11

PR12-0018

3. ADJUSTMENTS AND DRIVING

TURNING

Fig. 3-10 When turning in the field, use the lifting cylinder **A** on the boom (Easy Lift).

THE BREAK-AWAY MECHANISM

A mechanical 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 and stop driving immediately.

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 stone release can be reactivated by reversing the tractor with lowered cutting unit.

The factory setting of the stone release is adjusted to most conditions.

Fig. 3-11 Tighten the spring to 145 mm (5 mm = 3 turns of the nut).

If the break-away mechanism is activated too often, it is of course possible to tighten the initial tension of the spring. Never tighten the spring so much that it blocks the mechanism due to insufficient spring travel.

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 close to working position.
- 4) Listen to the RPM of the tractor when working in the field. If the 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".

3. ADJUSTMENTS AND DRIVING

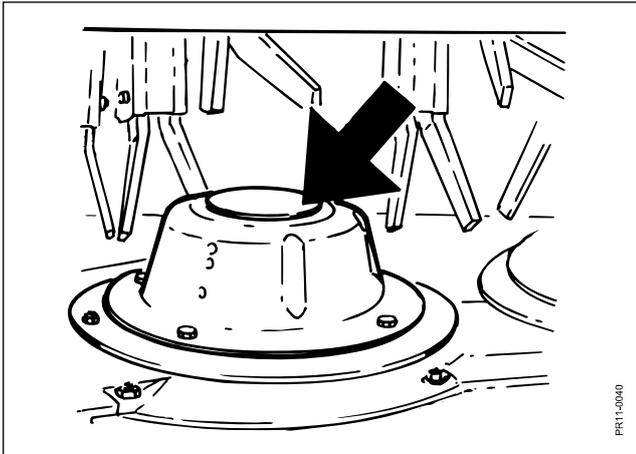


Fig. 3-12

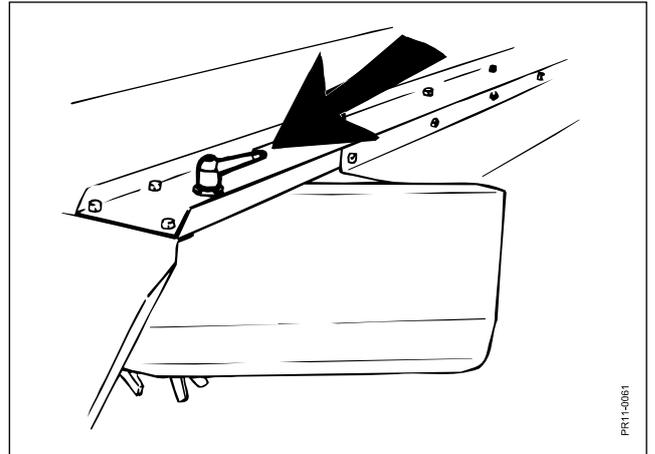


Fig. 3-13

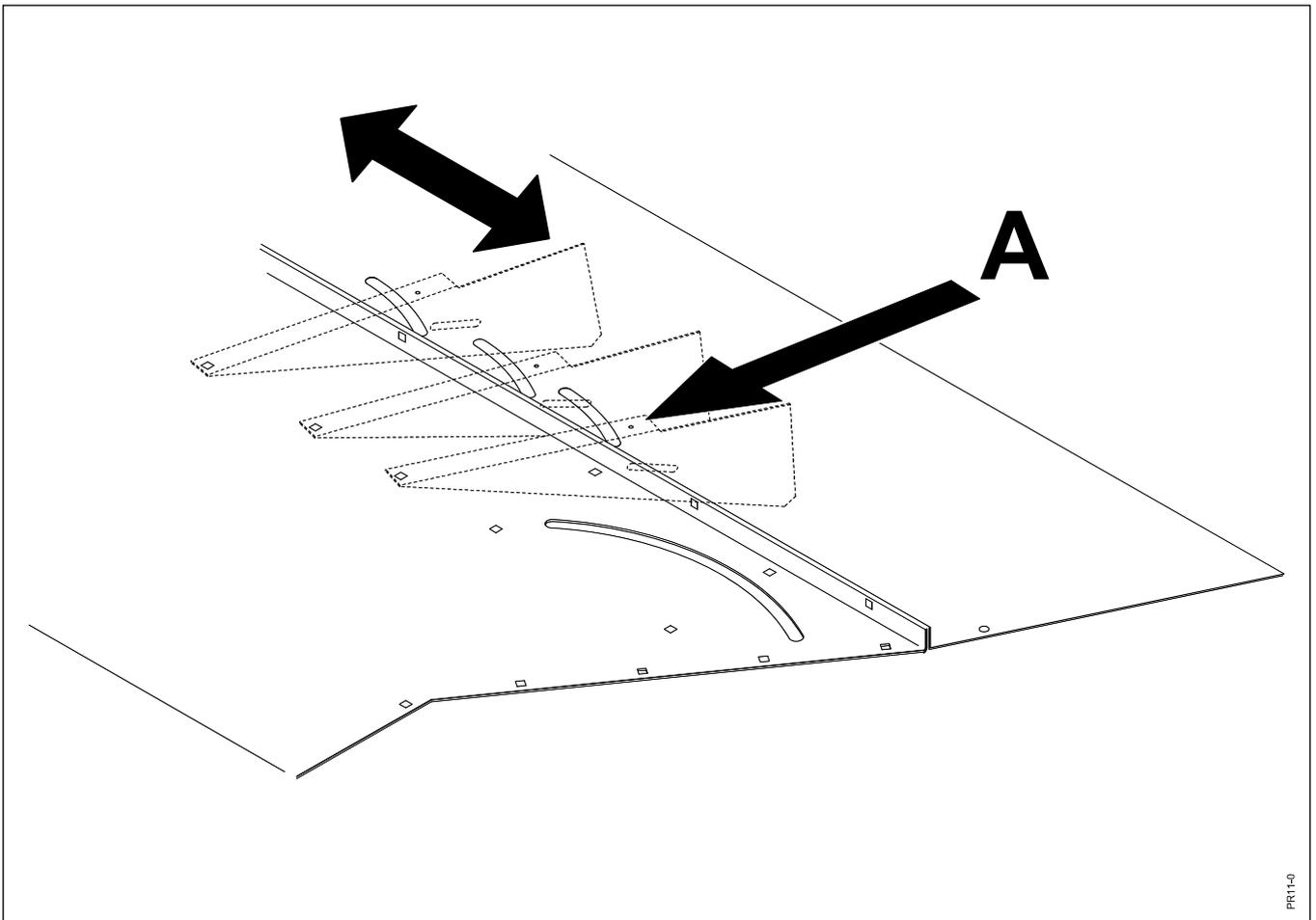


Fig. 3-14

3. ADJUSTMENTS AND DRIVING

FLOW CAPS

Fig. 3-12 The discs are equipped with flow caps to ensure that the crop is lifted away from the blades faster. This reduces risk of stripes and recutting.

If the power requirement seems to be too high, the flow caps can be dismantled. The amount of crop and the driving technique determine the need of flow caps.

SWATH GUARDS

The swath guards on the machine must ensure that the swath has the wanted shape and width. The crop is thrown from the conditioner rotor to the rear to the swath guards which gather the crop in an airy, narrow swath with a rectangular cross section.

Such a swath provides optimal preconditions for effective drying and subsequent unproblematic picking up for a forage harvester or a baler.

Fig. 3-13 The width of the swath can be adjusted by turning the swath guards. The bolts/handles on the top plate are loosened and the guards are moved either out or in.

EQUIPMENT FOR WIDE SPREADING (TOP DRY) ON SM MODELS

The GX machines with finger conditioner (SM models) are fitted with a number of spreading plates which make it possible to place a full-width swath to obtain optimum drying.

Fig. 3-14 All spreading plates can be adjusted separately in oblong holes. This is simply done by loosening the eye nuts and moving the spreading plate to the wanted position.

The factory setting for each spreading plate is marked with an indicator hole **A**.

NB: To place a normal swath, it is necessary to dismantle the outermost spreading plates in each side to be able to turn the swath guards into the wanted position.

3. ADJUSTMENTS AND DRIVING

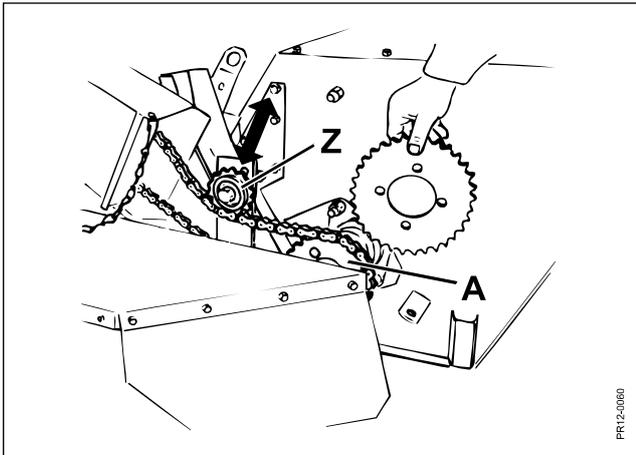


Fig. 3-15

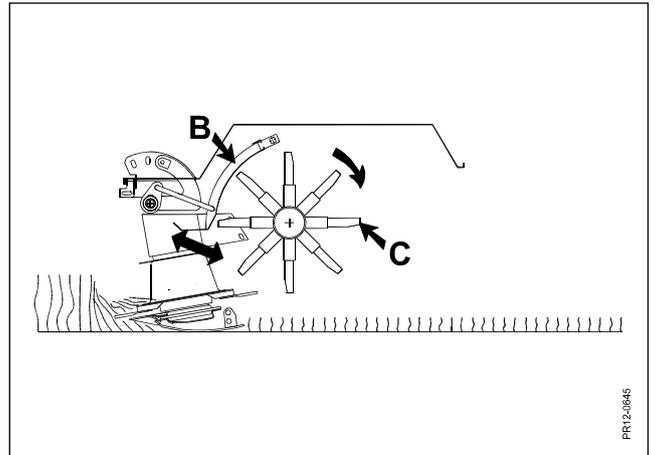


Fig. 3-16

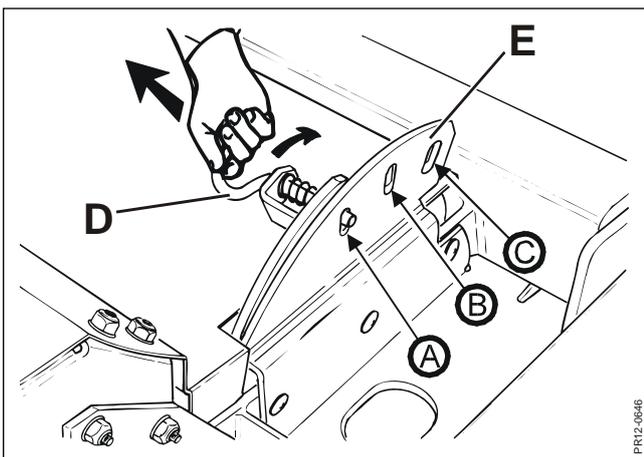


Fig. 3-17

FINGER CONDITIONER (SM MODELS)

CONDITIONER SPEED

There are two conditioner speeds available:

Normal = 860 rpm
 Reduced = 700 rpm

From the factory the machine is mounted to work at normal speed; 860 rpm.

Fig. 3-15 If you wish to reduce the rotor speed, replace the 27 teeth sprocket wheel on the rotor shaft by the 33 teeth sprocket wheel from the supplied spare parts package. This is done as follows:

- 1) Loosen the tension wheel **Z** and move it upwards so that the chain is loose.
- 2) Dismount the sprocket wheel **A** on the rotor shaft.
- 3) Mount the other (larger) sprocket wheel from the spare parts package on the shaft.
- 4) Press the tension wheel **Z** down towards the chain and tighten the sprocket wheel.

CONDITIONER PLATE ADJUSTMENT

The machine is equipped with a simple and easily operated system for central adjustment of the degree of conditioning.

Fig. 3-16 This degree of conditioning is changed by regulating the distance between the conditioner plate **B** and the conditioner fingers **C** on the rotor. (The shorter the distance, the stronger the conditioning of the crop.)

Fig. 3-17 The system is operated with the handle **D** which can be placed in 3 positions on the bracket **E**. The distance of the conditioner plate to the rotor is changed by moving the handle **D** to one of the other holes in the bracket **E**. If the handle is placed in pos. (A), the distance between the conditioner plate and the conditioner fingers is short, in pos. (B), the distance is medium and in position (C) the distance is long.

The adjustment of the system depends on several conditions. The optimal conditioning can be obtained with the following adjustment of the conditioner plate:

You have a:

Succulent, green crop	or	Strawy, more ripe crop	
-----------------------	----	------------------------	--

You want to drive:

above 8 km/h	below 8 km/h		above 8 km/h	below 8 km/h
--------------	--------------	--	--------------	--------------

The following adjustment of the machine is recommended:

Conditioner rotor speed	High				X	X
	Low	X	X			
Distance between conditioner plate and rotor	Long (C)		X			
	Medium (B)	X				X
	Short (A)				X	

From the factory the machine is adjusted for a medium degree of conditioning in pos. (B). This adjustment provides a satisfactory performance under normal conditions.

3. ADJUSTMENTS AND DRIVING

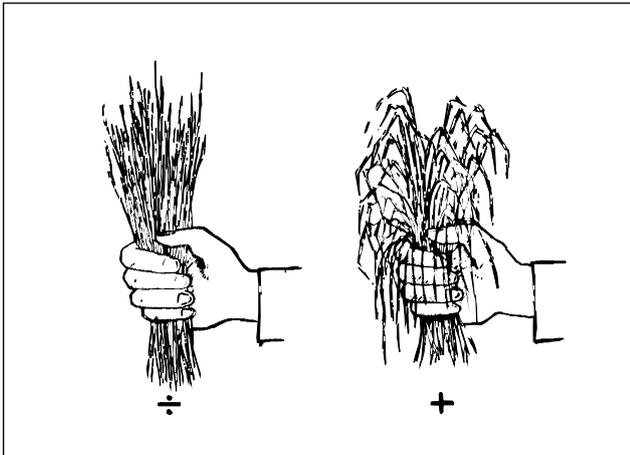


Fig. 3-18

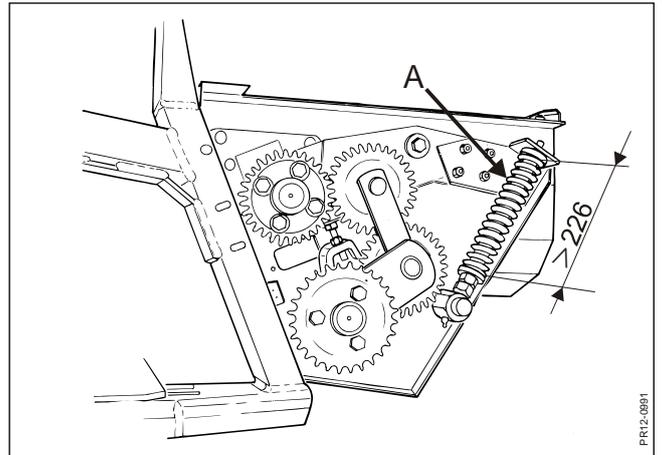


Fig. 3-19

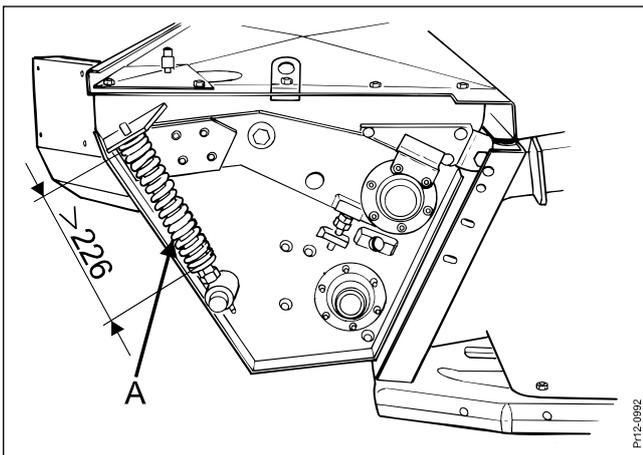


Fig. 3-20

ROLLER CONDITIONER (SC MODELS)

The machine with roller conditioner with rubber profiles of the chevron type is from the factory fitted with a special sprocket wheel in the transmission which provides 1000 rpm on the rollers. This speed is standard on the machines with rollers.

CONDITIONING

Conditioning should be hard enough to obtain sufficiently fast drying, but not harder than that. The right degree of conditioning may be difficult to estimate, especially in pure grass crops.

The stems should be bruised but not broken. Broken leaflets and stems will result in unnecessary waste.

Too hard conditioning results in stems having a dark green colour and giving off liquid.

The reason may be:

- That the rollers are too close
- that the roller pressure is too high and
- that the driving speed is too low.

Fig. 3-18 Too gentle conditioning is characterised by the stems standing upright when a bunch is held in the hand.

The reason may be:

- that the roller distance is too long
- that the roller pressure is too low and
- that the driving speed is too high.

It may be difficult to make out whether the conditioning is optimal, but do not get tempted to exaggerate the conditioning. It is usually sufficient, even if it cannot immediately be seen on the grass.

ROLLER PRESSURE

Fig. 3-19 In order to obtain a suitable roller pressure in large as well as small amounts of grass, the upper roller is spring-loaded and the springs also make it possible for the rollers to give way if foreign matter gets between the rollers.

The roller pressure is adjusted on both sides of the machine at the springs **A**.

The following can be used as a guide:

- In pure grass crops the springs are **tightened**.
- In clover, alfalfa and similar leafy crops the springs are **loosened**.



IMPORTANT: The springs must be adjusted equally in both sides. To make sure there is enough travel, the spring should maximum be tightened 24 mm. This means that the length of the spring should be minimum 226 mm.

3. ADJUSTMENTS AND DRIVING

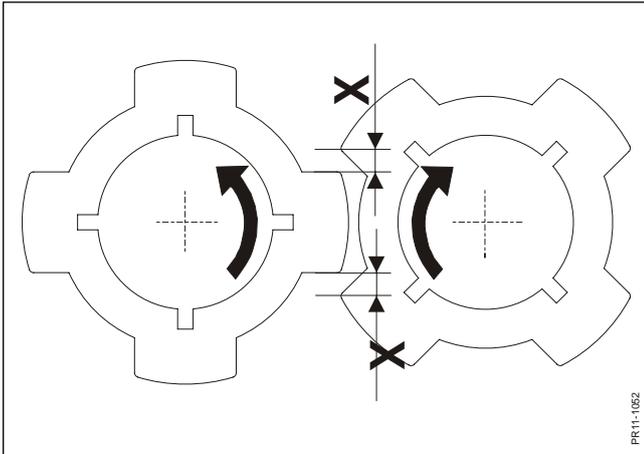


Fig. 3-21

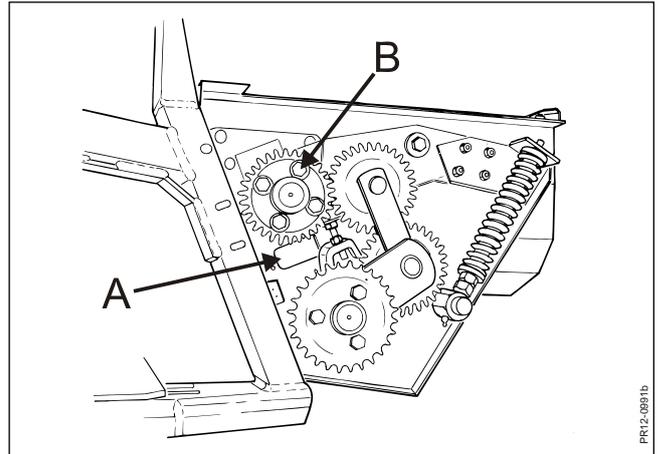


Fig. 3-22

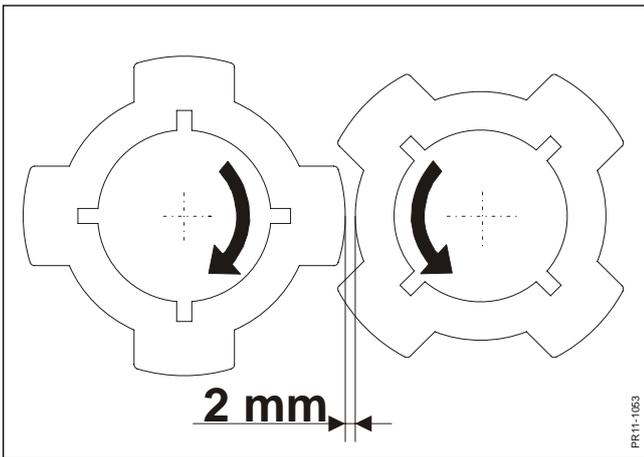


Fig. 3-23

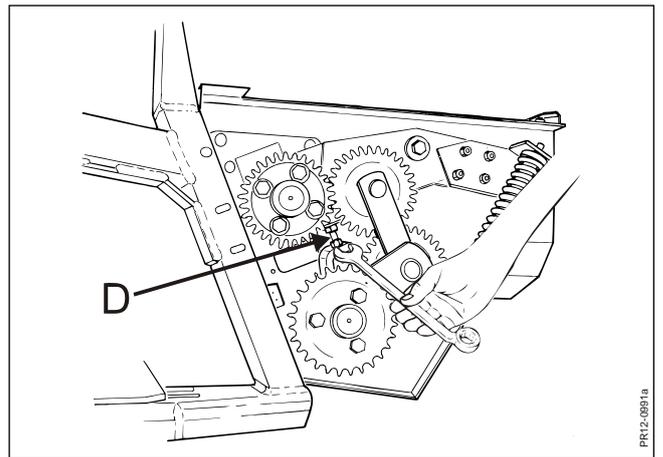


Fig. 3-24

3. ADJUSTMENTS AND DRIVING

SYNCHRONISATION OF THE ROLLERS

Fig. 3-21 The rollers **must never** touch each other as this would give a poor result and many vibrations in the machine.

The rollers must always be correctly synchronised, i.e. be in time with each other so that the rubber profile on one roller goes precisely down in the rubber profile on the other roller. The rollers are correctly synchronised when the distance **X** is approximately the same in both sides.

Fig. 3-22 The synchronisation can be checked through the peephole **A** between the rollers. For readjustment the 4 bolts **B** are loosened and the roller is turned into the correct position. Tighten the bolts to 200 Nm (20 kpm).

DISTANCE BETWEEN THE ROLLERS

Fig. 3-23 The distance between the rollers must be minimum 2 mm and the rollers must run without any particular noise.



IMPORTANT: The distance should be checked before starting and must be measured from behind and between the rollers where the dimension 2 mm is indicated on the figure. Check this at several places on the roller.

Fig. 3-24 Possible adjustment of the distance is made at the screw **D** which is equipped with a counter nut which must be tightened properly after the adjustment. The adjustment should be made at both sides of the machine.



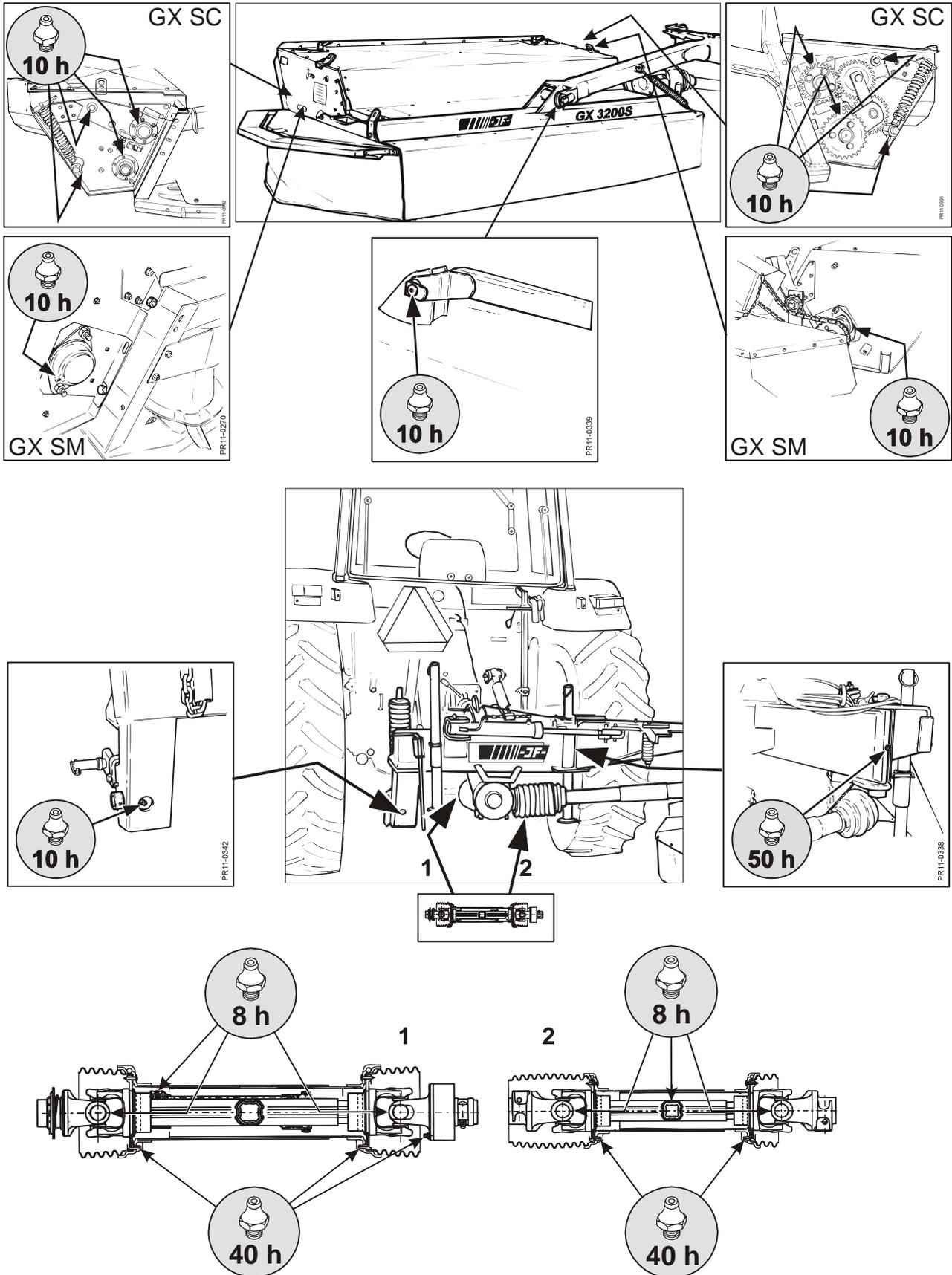
IMPORTANT: If there are jarring sounds or vibrations, the rollers may be too close or the synchronisation is incorrect.

Therefore, check the above adjustments regularly.

4. GREASING

Lubrication chart for disc mower type GX-SM and -SC

The below grease spots 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.

TYPE OF GREASE: Universal grease of good quality.

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



CAREFUL - REMEMBER: Lubricate the PTO shafts after every 10 working hours.

Pay special attention to the sliding **PROFILE TUBES** of the PTO shaft. They must be able to slide back and forth when the torque is heavy.

If you neglect to lubricate the profile tubes sufficiently, it will result in high frictional forces (seizing) which will damage the profile tubes and in time also connecting shafts and gearboxes.

The shaft between the tractor and the machine is lubricated through the external lubricating nipple at the end of the protective tube.

4. GREASING

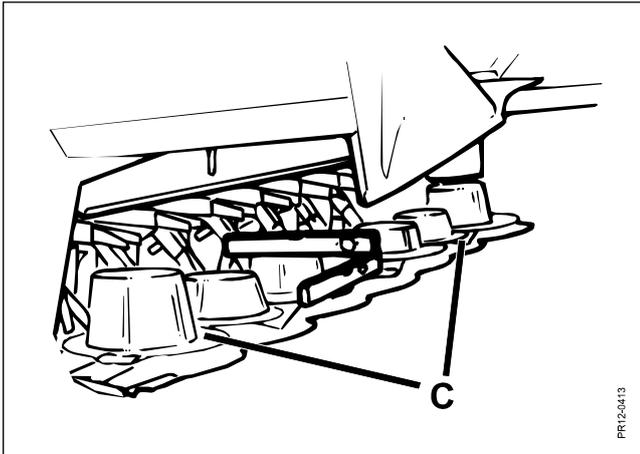


Fig. 4-1

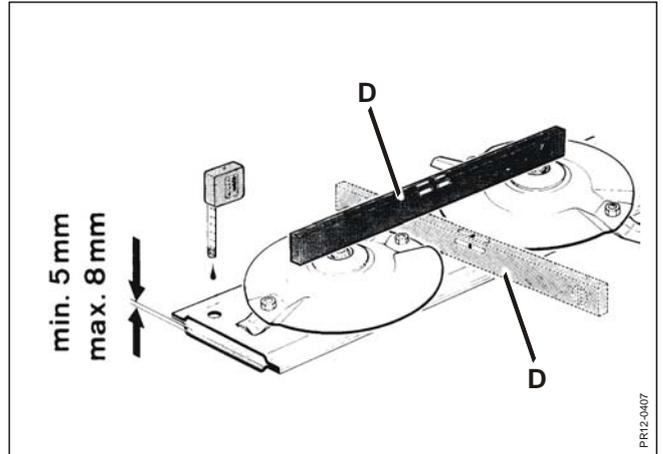


Fig. 4-2

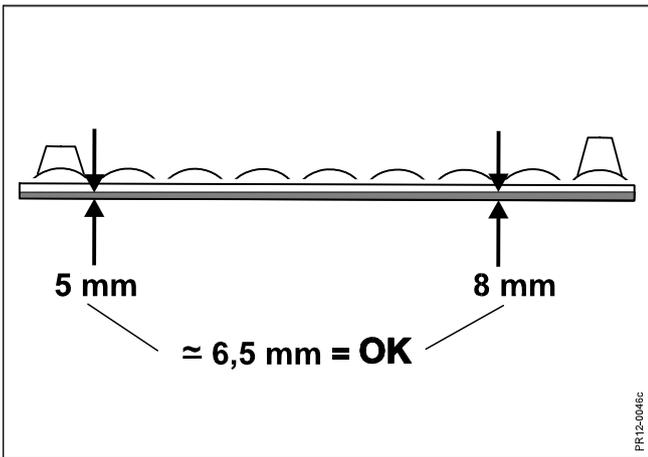


Fig. 4-3

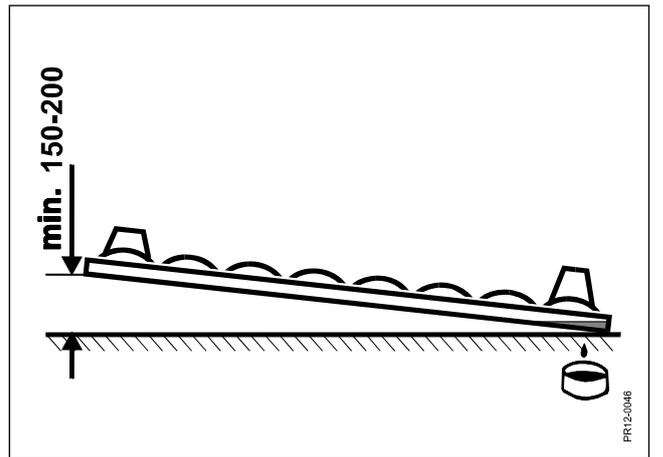


Fig. 4-4

OIL CHANGE:

THE CUTTER BAR

Oil content:		2400 2800 3200	1.70 l 2.00 l 2.25 l
--------------	---	----------------------	----------------------------

2 filling plugs are placed on top of the cutter bar:

2400: between 1st and 2nd disc in the right **and** left-hand side.

2800: between 1st and 2nd disc in the right-hand side **and** between 2nd and 3rd disc in the left-hand side.

3200: between 1st and 2nd disc in the right **and** left-hand side.

Fig. 4-1 The oil level must be checked every day during the harvesting season at one of the plugs C.

Fig. 4-2 To check the oil level, place the cutter bar horizontal, which should be checked by means of a level tube **D**, or two, both lengthwise and crosswise. In order to facilitate the daily oil check we recommend you to have a permanent "oil measuring platform" on which the cutter bar can be placed when checking the oil level.

This means that the check for horizontal cutter bar with level tube as shown in Fig. 4-4, need not be repeated every time the oil level is checked.

Fig. 4-3 Correct oil level:



5 -8 mm (Average value)

This oil level must be an average of the level measured at both filling holes.

When the oil level has been checked wait 3 minutes, if the oil is warm, and check again.

If the oil is cold wait 15 minutes before checking the oil level again.

Oil change:



The first change of oil in the cutter bar must be made after 10 working hours and then after every 200 working hours or at least once every season.

The easiest way to change the oil is to let the machine run a couple of minutes until the oil is hot. At the same time this will ensure that impurities are mixed with the oil and are removed when changing the oil.

Fig. 4-4 For oil change the cutter bar is raised minimum 150-200 mm from horizontal in the right-hand side to ensure optimum emptying.

To get access to the drain plug of the cutter bar in the left-hand side, the outermost guide shoe must be dismounted. After that the plug can be unscrewed and the oil can be drained off.

REMEMBER: To mount the plug again after draining. The drain plug has a magnet to collect metallic impurities. Therefore, always clean the plug before remounting it.

4. GREASING

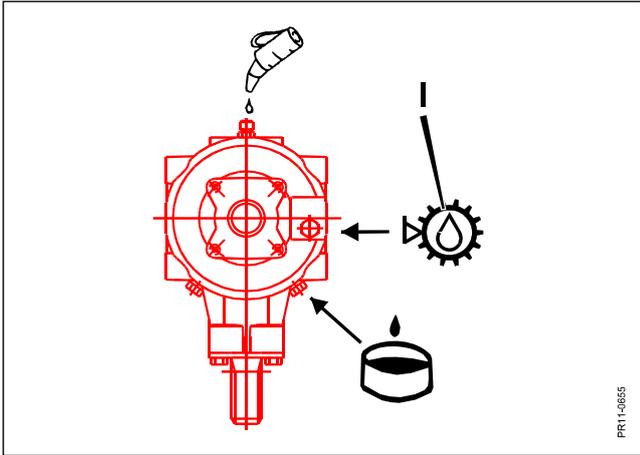


Fig. 4-5

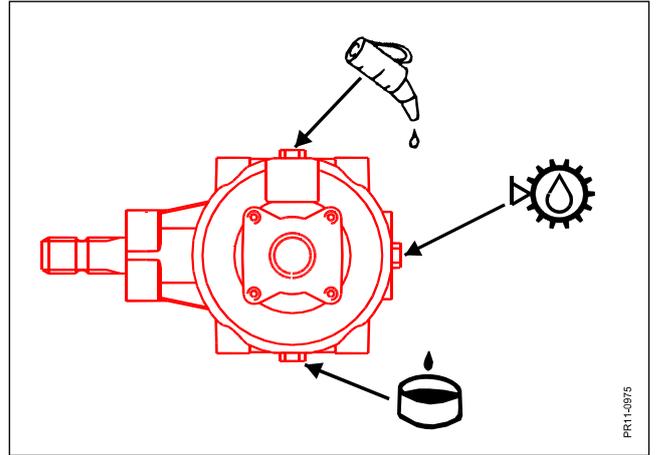


Fig. 4-6

4. GREASING

Lower the cutter bar again before adding new oil.

When changing the oil, be sure to use a correct oil type.

Only use oil of the quality API GL-4 SAE 80W

In some countries, this oil is not available. In these cases a API GL-4 or API GL-5 SAE 80W-90 multigrade oil can be used as an acceptable alternative. Never use pure SAE 90W oil in the cutter bar.



WARNING: Never fill with more oil than prescribed. Too much oil as well as too little oil in the cutter bar may cause unintentional overheating which in the long term will damage the bearings.

BEVEL GEARBOX ABOVE THE CUTTER BAR

Fig. 4-5

Oil content:  0.9 l

Oil type: API GL4 or GL5 SAE 80W -90

Oil 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.

BEVEL GEARBOX ON THE HEADSTOCK

Fig. 4-6

Oil content:  540 rpm = 1.1 l
1000 rpm = 1.2 l

Oil type: API GL4 or GL5 SAE 80W -90

Oil 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.

4. GREASING

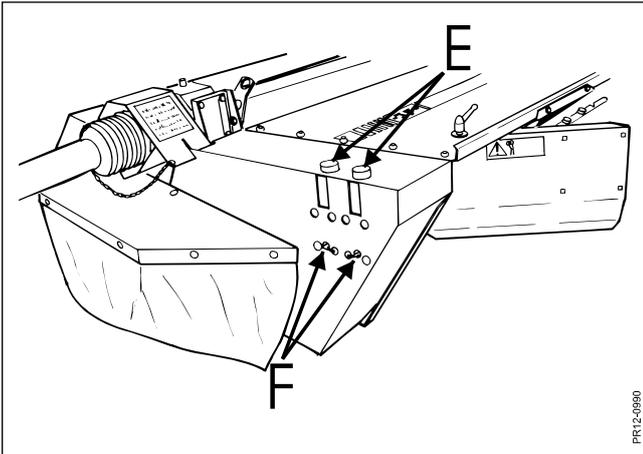


Fig. 4-7

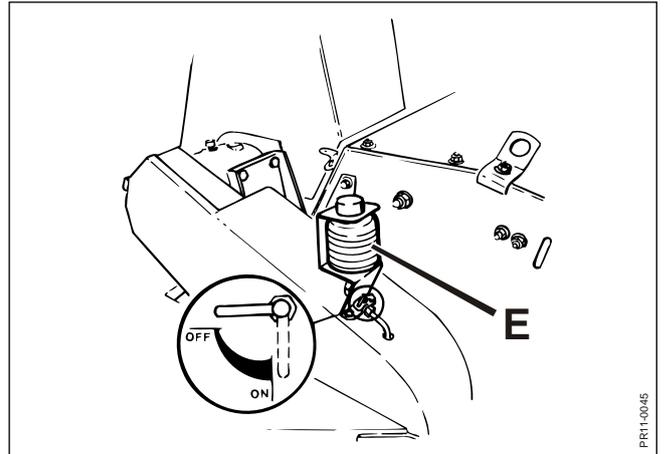


Fig. 4-8

DRIP-FEED LUBRICATION

CHAIN DRIVE AND GEARWHEEL DRIVE (ON SC-MODELS)

Fig. 4-7 Chain drive and gearwheel drive are lubricated by drip-feed lubrication. Fill the oil tank **E** (1 on the SM models and 2 on the SC models) with chain saw oil. Refill after every 20 hours of operation (0.5 l).

Fig. 4-8

Make sure that no dirt gets into the tank as this could block the oil supply.

Turn on the oil when starting the machine by turning the tap at **F** until it is approximately half open.



IMPORTANT: Remember to turn off the tap/taps again when stopping the machine.

The drip interval must be 2-3 drip/minute. This corresponds to a consumption of approximately 0.2 l oil per working day (10 hours). Therefore, adjust the drip interval by turning the tap to approximately half open.

Please note that the oil temperature etc. may require a readjustment.

5. MAINTENANCE

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

Fig. 5-1

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 INSTRUCTIONS** items 1-20 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 Correct torque moment M_A (if nothing else stated)

5. MAINTENANCE

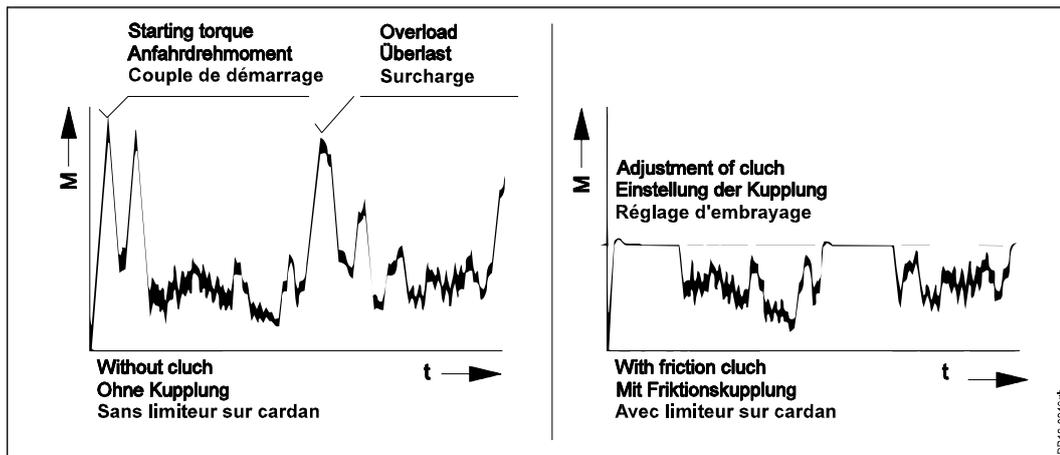


Fig. 5-2

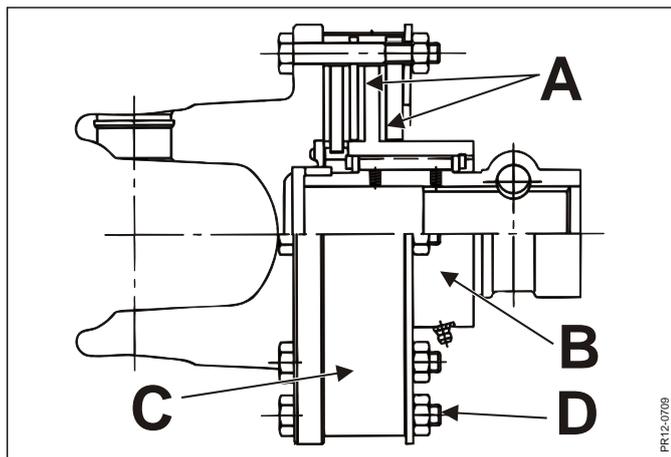


Fig. 5-3

FRICTION CLUTCH

If you drive with a large tractor (more than 90 HP) you can ensure a long life for your tractor and machine by mounting a PTO drive shaft with friction clutch between tractor and machine.

The PTO drive shaft with friction clutch is standard on GX 3202 SM and is available as option for the other models.

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

The friction clutch must be maintained at regular intervals. At the same time the clutch must be checked after any long period of standstill. This especially applies after winter storage before the machine is used for the first time in the season.

Maintaining the friction clutch:

- Fig. 5-3**
- 1) Disassemble the clutch and clean all parts of possible rust.
 - 2) Check the clutch discs **A** for wear and replace if required.
 - 3) Clean and grease the freewheel clutch **B**.
 - 4) Assemble and mount the clutch again. See also the instruction manual for the PTO drive shaft delivered by the supplier.



IMPORTANT: The outer metal band **C** indicates whether the tightening of the springs is correct. Tighten the bolts **D** just so much that the metal band **C** can be turned (max. 0.5 mm play).
The torque setting is not correct if the metal band is too tight or deformed due to excessive tightening of the bolts.



WARNING: If the clutch is overloaded it will slip and get heated, and hence be worn quickly. Overheating will damage the friction plates. If the clutch is blocked or partly put out of function in other ways, the factory guarantee will be discontinued.

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 rotate with approx. 3000 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 and rotor fingers are intact. In the long run unbalance will cause fatigue fractures and serious damage.

5. MAINTENANCE

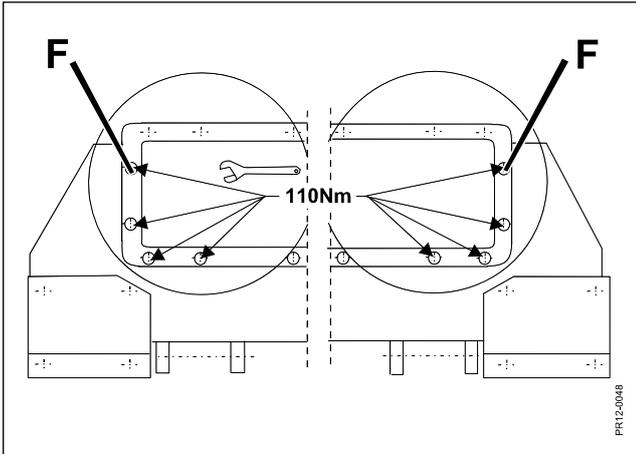


Fig. 5-4

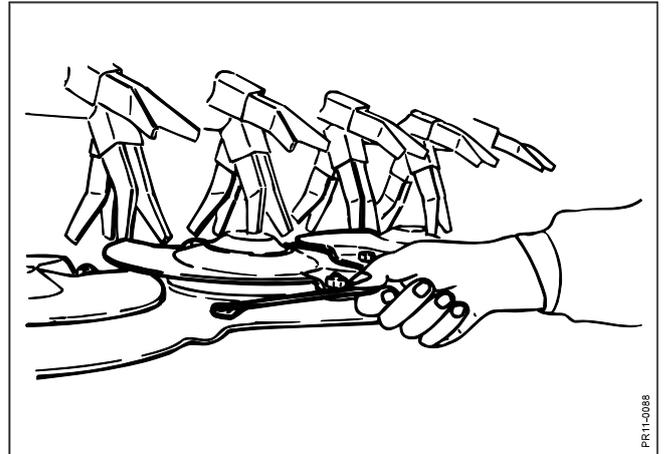


Fig. 5-5

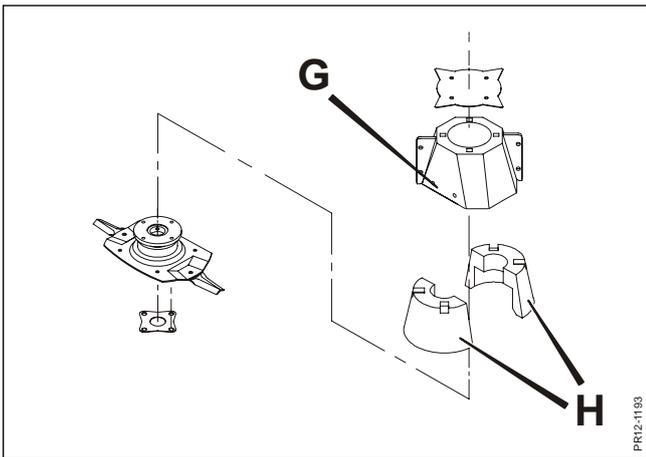


Fig. 5-6

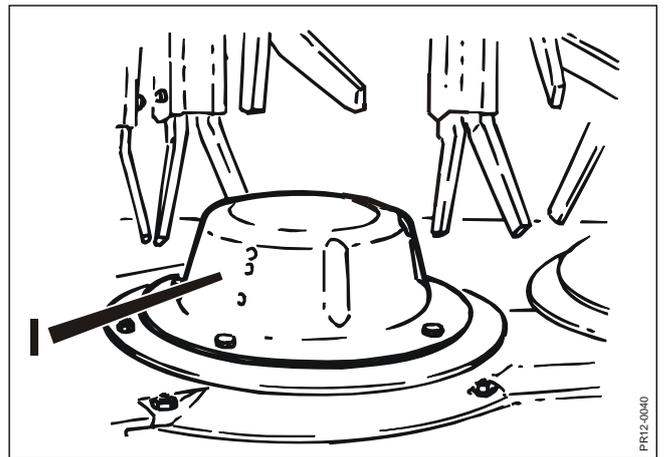


Fig. 5-7

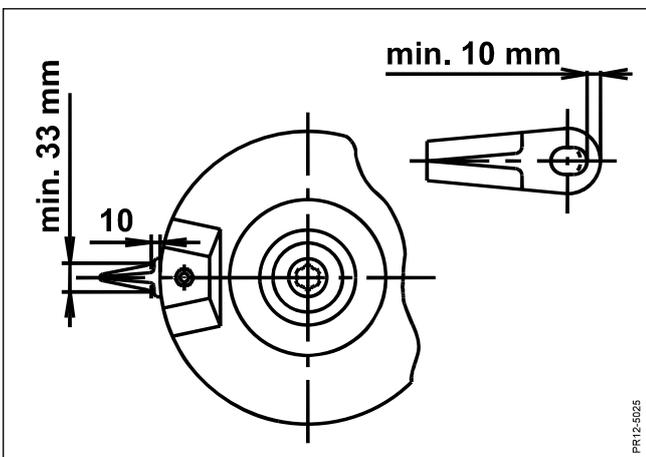


Fig. 5-8

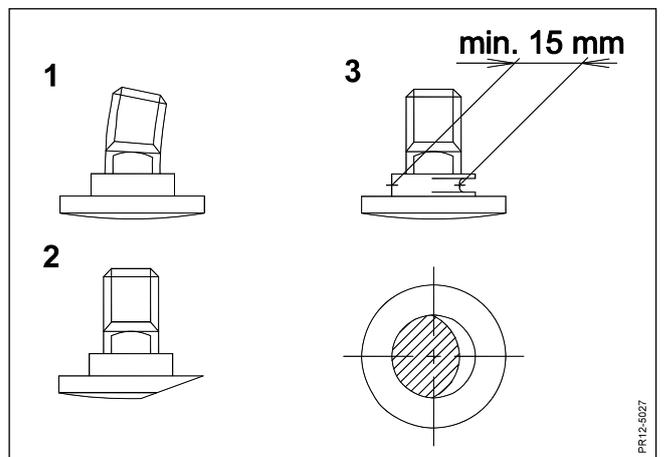


Fig. 5-9

5. MAINTENANCE

All machines manufactured by JF-Fabriken 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.

Fig. 5-4 To avoid damage caused by vibrations in the cutting unit, the cutter bar must be fastened correctly. The 4 bolts **F** in each side must be tightened to 110 Nm (11 Kpm).

Fig. 5-5 Bolts at stone protectors and shearbars at the front of the cutter bar should be checked at regular intervals.

Fig. 5-6 The two large flow intensifiers **G** on the outermost discs are filled with foam blocks **H** to avoid unbalance. It is important that the foam blocks remain undamaged to prevent the flow intensifiers from being filled up with earth, dust and impurities which may cause unbalance.

Fig. 5-7 The low flow caps **I** on the remaining discs should be straightened if they are deformed and, if necessary, be replaced by new ones. Dismount the flow caps and clean of earth, dust etc. 2 – 3 times during the season.

CUTTER BAR – DISCS AND BLADES

Discs, blade bolts and blades are made of high-alloyed, hardened materials. This heat treatment provides especially hard and ductile material which is able to withstand extreme stress. If a blade or a disc is damaged, do not attempt to weld the parts together again as the generation of heat will weaken the parts.

Damaged blades, discs, blade bolts and nuts **must be replaced by original -JF- spare parts to obtain a safe operation.**



WARNING: When replacing blades, both blades on the disc in question must be replaced as not to create an unbalance.

CAUTION: Always lower the cutting unit to the ground before replacing blades, blade bolts, discs and the like.

BLADES

Fig. 5-8 Blades must be replaced if:

- the blade width is less than 33 mm measured 10 mm from the edge of the disc.
- the metal thickness around the blade hole is less than 10 mm.

Bent blades must be replaced immediately.

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

Fig. 5-9 Blade bolts must be replaced if:

- 1) they are deformed
- 2) they are strongly worn on one side
- 3) the diameter is less than 15 mm.

5. MAINTENANCE

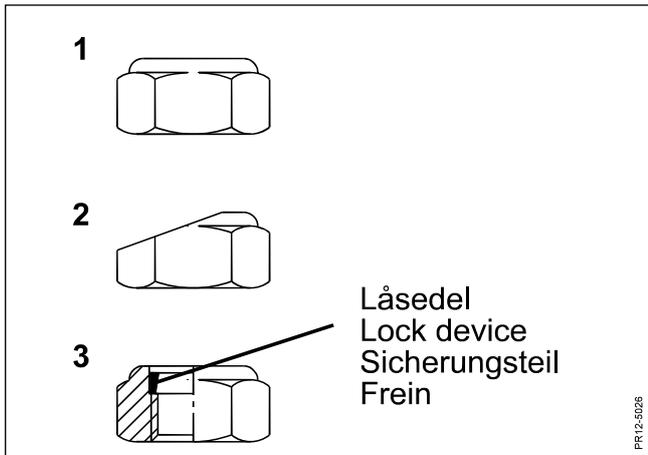


Fig. 5-10

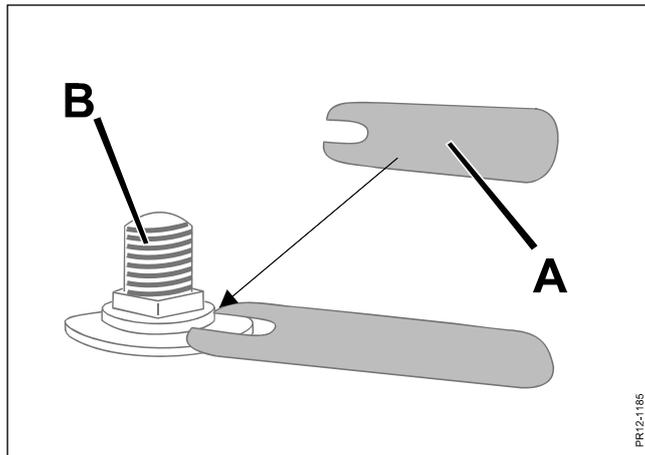


Fig. 5-11

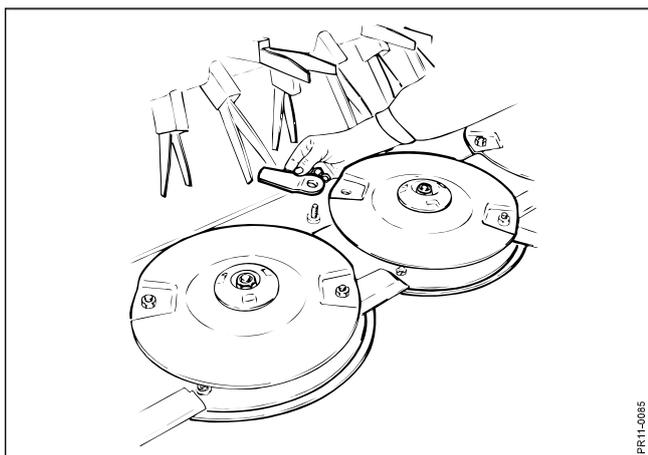


Fig. 5-12

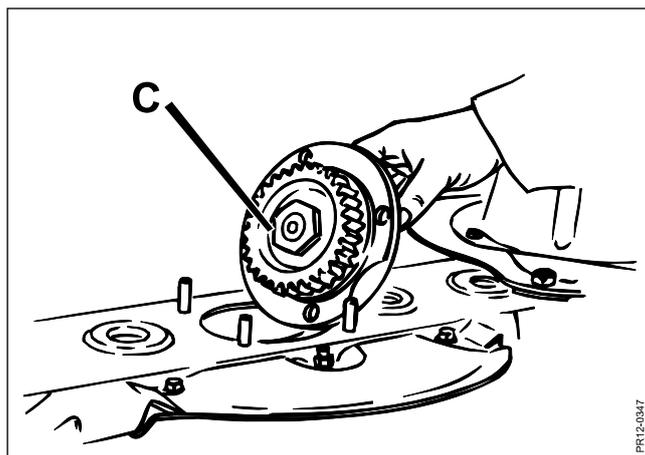


Fig. 5-13

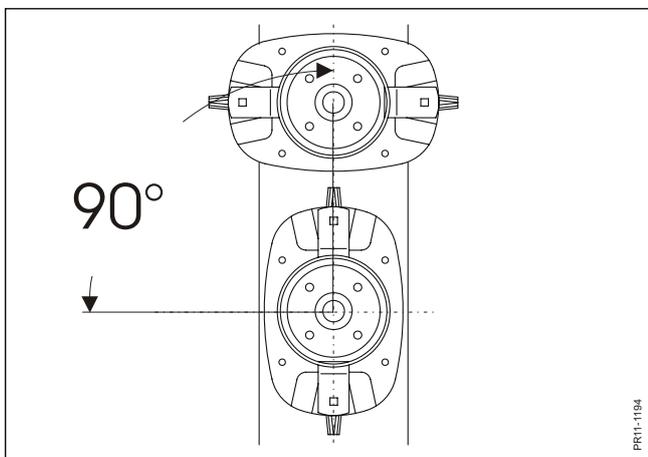


Fig. 5-14

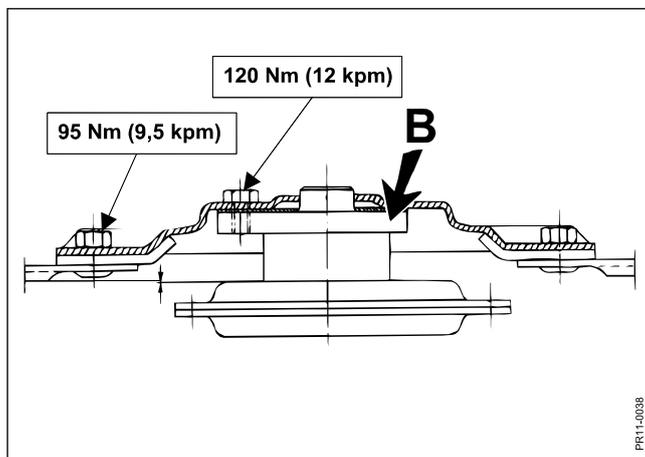


Fig. 5-15

- Fig. 5-10** The special nut must be replaced if:
- 1) it has been used more than 5 times
 - 2) the height of the hexagon is less than half of the original height.
 - 3) the lock device is worn or loose.

REPLACEMENT OF BLADES

- Fig. 5-11** In connection with replacement of blades check all blade bolts **B** on the discs regularly with the gauge **A** (in the spare parts package).



IMPORTANT: When the gauge **A** can get over the blade bush **B** it must be replaced immediately.

Also check regularly if the disc assemblies, blade bolt, special nut and disc are worn or loose. If this is the case, the parts must be tightened or replaced.

DANGER: It is very important to check the disc assemblies after:



- Collision with foreign matter, or
- If a blade is missing on the cutter bar.

Parts can be damaged and you MUST replace parts if you have the slightest doubt whether they have been damaged to secure against loss of rotating parts.

- Fig. 5-12** To obtain a satisfactory harvesting it is important that blades and shearbar are intact and sharp. Replacement of blades is made by dismounting the blade bolt and pull it out from beneath the disc. This is easily done when the blade is in the front position so that the bolt can fall out through the hole in the stone protector. Remove the old blade and mount the new one together with the blade bolt. The blades can be used on both sides by moving the blades from one disc to another with opposite direction of rotation.

CUTTER BAR AND DISCS

- Fig. 5-13** A cutter bar is used on which each hub **C** below the discs is easily replaced from above (Top Service cutter bar).

- Fig. 5-14** If discs have been dismantled they must be mounted again staggered 90° in relation to each other.

- Fig. 5-15** Make sure that the bolts have been tightened as shown.

- Discs fastened with four bolts must be tightened to **120 Nm** (12 kpm).
- Blade bolts must be tightened to **95 Nm** (9.5 kpm).

The height of the disc can be adjusted by mounting fillers under the disc at **B**. This may be necessary when replacing the discs if the blades are not at the same height.



WARNING: After replacement of blades, blade bolts, discs and the like check that no tools have been left on the machine.

5. MAINTENANCE

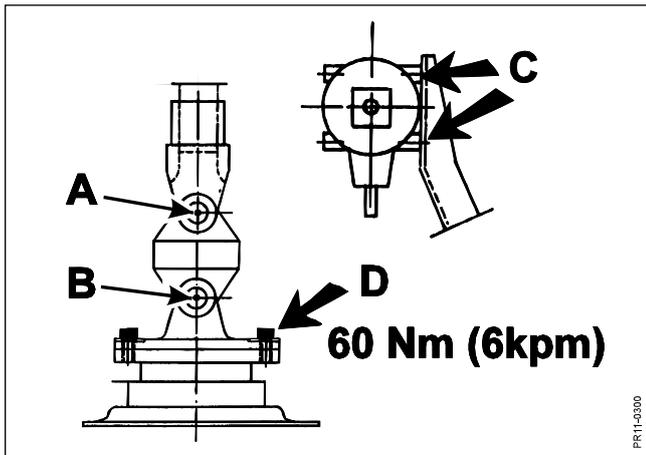


Fig. 5-16

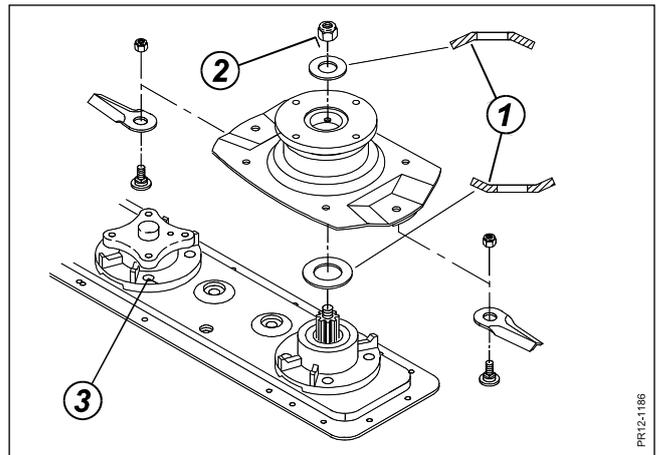


Fig. 5-17

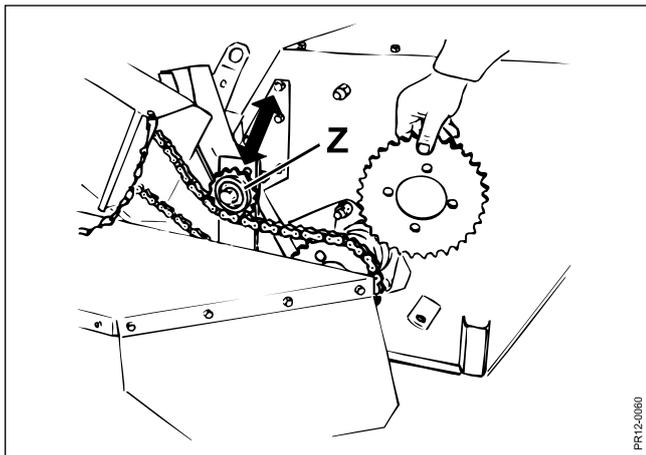


Fig. 5-18

5. MAINTENANCE

Fig. 5-16 The PTO drive shaft for the cutter bar has been greased for life. The PTO should run with minimum angle deviation, i.e. the measure difference at **A** and **B** should maximum be 6 mm (+/- 3).

The alignment is made at the gearbox above the shaft by moving the gearbox in the oblong holes or mount fillers between the gearbox and the frame at **C**.

The bolts **D** are tightened with **60 Nm** (6 Kpm) and must be locked with LocTite.

Fig. 5-17 The spring washer (**1**) above the input disc is placed as shown with the curved side upwards.

The nut (**2**) is tightened to **190 Nm** (19 Kpm).

The bolts (**3**) which hold the disc bearing housing to the bar are tightened to **85 Nm** (8.5 Kpm).



WARNING: After replacement of blades, blade bolts, nuts or discs check that no tools have been left on the machine.

CONDITIONER

Defective fingers on the conditioner rotor must be replaced by new ones to ensure optimal conditioning and transport of the crop. Furthermore, missing fingers or parts of fingers will cause the rotor to get out of balance which for instance will result in reduced life of the bearings.

TIGHTENING OF ROLLER CHAIN

Fig. 5-18 Press the sprocket wheel **Z** down towards the chain and tighten it.

WINTER STORAGE

When the season is over, the preparation for winter storage should be made immediately after. First, clean the machine thoroughly. Dust and dirt absorb moisture and moisture increases the formation of rust. Be careful when cleaning with a high pressure cleaner. Never spray directly on the bearings and grease all nipples carefully before and after cleaning so that possible water is pressed out of the bearings.

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

- Check the machine for wear and other defects – note down the necessary parts you will need before the next season and order the spare parts.
- Dismount the PTO drive shafts, lubricate the profile tubes and keep them in a dry place.
- Spray the machine with a coat of rust-preventing oil. This is especially important on the parts polished with use.
- Change the oil in the cutter bar and the gearboxes.
- Store the machine in a ventilated engine house.

6. MISCELLANEOUS

DRIVING TIPS AND FAULT-FINDING

Problem	Possible cause	Remedy
Uneven stubble or bad cut	<p>The cutter bar is relieved too much.</p> <p>The number of rpm of the tractor is too low.</p> <p>The blades are worn</p> <p>Discs, stone protectors or flow caps are deformed.</p>	<p>Check the basic adjustment of the machine and, if necessary, reduce the relief by lowering the link arms.</p> <p>Check that the number of rotations of the tractor PTO is correct. Keep a constant number of RPM</p> <p>Turn/move the blades to another disc or replace the blades</p> <p>Replace deformed parts.</p>
Stripes in stubble	<p>The cutting angle is too large, the grass is not transported across the cutter bar</p> <p>Accumulation of material in front of the cutter bar</p> <p>Earth and grass around the cutter bar between the discs</p> <p>You are working early in the morning when the grass is still very wet</p>	<p>Adjust the cutter bar more horizontal by lengthening the top link</p> <p>Increase the driving speed, if possible Mount flow caps on the discs</p> <p>Mount special, sharp shearbars or replace worn shearbars</p> <p>Increase the driving speed, if possible Mount flow caps</p>
Irregular flow through the machine	<p>Conditioner fingers may be worn or missing</p> <p>The distance between the conditioner plate and the conditioner rotor is too long</p>	<p>Replace worn fingers and mount new ones where these are missing</p> <p>Adjust the conditioner plate to shorter distance to the rotor Increase the driving speed</p>
The machine vibrates/ uneven operation	<p>Blades may be deformed, damaged or missing</p> <p>Defective PTO drive shafts</p> <p>Defective bearings in cutter bar or conditioner rotor</p> <p>Defective flow caps and intensifiers</p> <p>Earth and grass in flow caps, perhaps missing foam blocks in flow intensifiers.</p>	<p>Replace or move damaged blades and/or mount new blades</p> <p>Check if the shafts are intact. Repair, if necessary</p> <p>Check if bearings are loose or damaged. Replace if necessary</p> <p>Replace flow caps and intensifiers</p> <p>Clean flow caps and mount new foam blocks, if necessary</p>
Gear or cutter bar overheated	Oil level not correct	<p>Check the oil level and refill/drain out oil, if necessary</p> <p>NB: Maximum temperature in gearbox 80 degrees, Cutter bar temperature maximum 90-100 degrees</p>
Power consumption unusually high	<p>Crop and dust under the discs</p> <p>String or wire is wrapped around a disc.</p>	<p>Stop the tractor engine. Dismount the discs and clean cutter bar and discs. Check if the friction clutch is intact.</p> <p>Remove the foreign matter.</p>

OPTIONAL EQUIPMENT

HIGH GUIDE SHOES

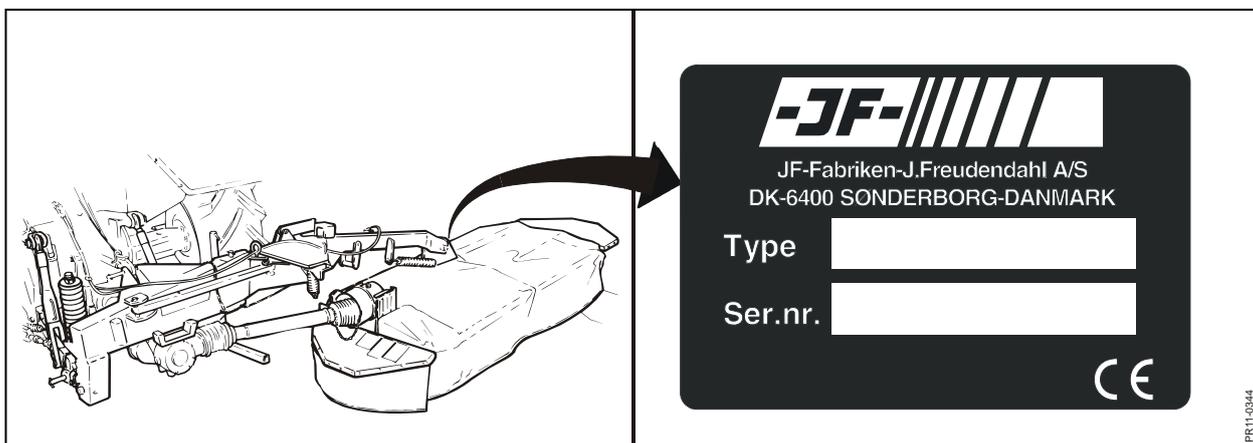
For topping of fallow fields, guide shoes can be mounted which will give a higher stubble.

SHARP SHEARBARS

When working in certain difficult crops it may be necessary to mount sharp shearbars between the discs. The shearbars reduce the risk that crop accumulates on the cutter bar and thus creates sribes.

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 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

JF-Fabriken - J. Freudendahl A/S, 6400 Sønderborg, Denmark, hereafter called "**JF**", 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 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. Nor is JF 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, conditioner parts, tyres, tubes, brakes shoes, chain tightener parts, guards, hydraulic hoses, conveyors, wheel-fixing bolts and nuts, snap rings, sockets, PTO drive shafts, clutches, gaskets, seals, tooth belts, V-belts, chains, sprocket wheels, carriers, conveyor chain slats, rake and pick-up times, rubber seals, rubber paddles, shares, wearing plates and lining for spreading platform, shredding blades incl. bolts and nuts, beaterbars 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 predelivery 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 repair is not undertaken immediately.**



Specialist in grassland machinery and complete diet mixers

When it comes to green feed techniques, JF-STOLL has gained a reputation as one of the world's leading suppliers and specialists. As a specialist manufacturer for over 50 years, we have gained a vast amount of experience from right around the world and, more importantly, unique regional requirements.

We also receive important inspiration in our development work through a close and continuous dialogue with customers, dealers and agricultural researchers.

No matter which type of JF-STOLL-machine you chose, you can be sure to obtain the best result to obtain a top result - in the shape of high performance and operational reliability, minimum maintenance, flexible working possibilities and optimal operating economy.

Dealer

JF-STOLL

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