**Technology – you can depend on**

Tractor mounted -universal
Forage harvester

# C2200

**OPERATOR'S MANUAL**
**C 2200 Tractor mounted universal**
**Forage Harvester**

**93943 ISSUE B0507 (ENGLISH)**

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# OPERATING INSTRUCTIONS

## 1. Foreword

In addition to a detailed technical description, these operating instructions also give general and specific explanations on the function and correct operation of the Champion harvester, as well as troubleshooting.

As technical solutions constantly have to be developed and adapted to the latest scientific and technical operating know-how, we reserve the right to make modifications as necessary.

The terms "right" and "left" refer to the forward travel of the machine.

There are additional operating instructions for the Champion harvester with the detector unit.

Keep a note of the serial number of your machine on the page provided at the end of the operating instructions. Your dealer will need these details to supply the correct spare parts promptly.

## 2. Range of use

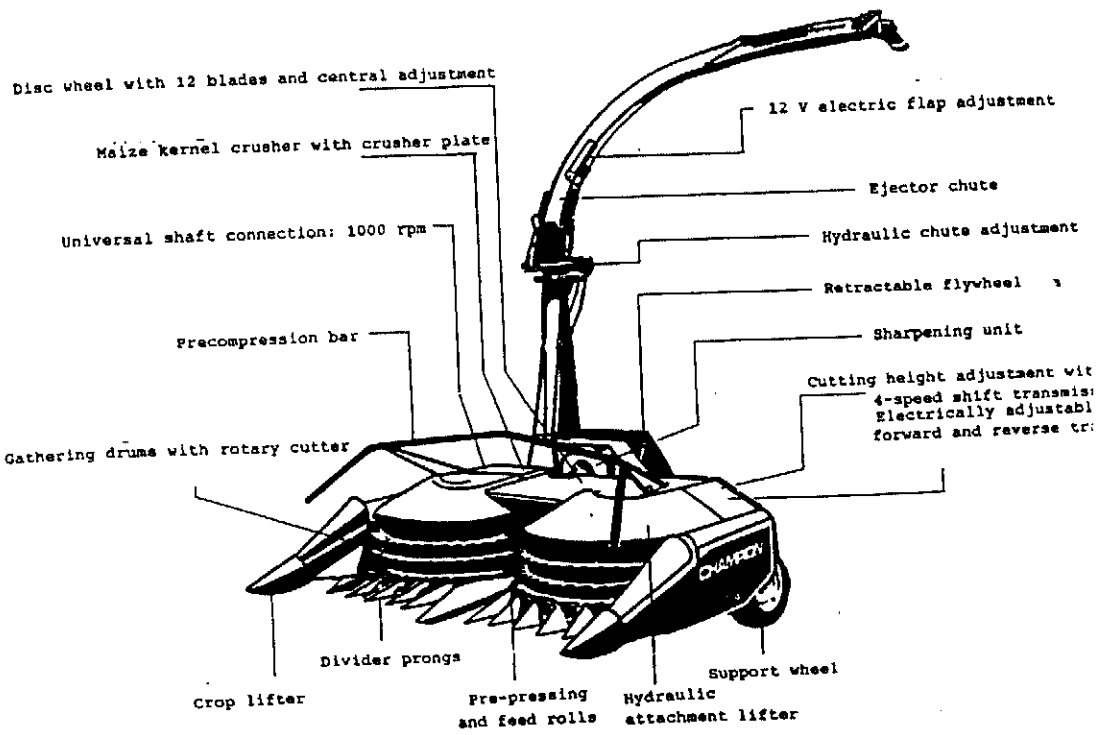
The Kemper universal precision crop chopper is suitable for harvesting silage maize and other crops.

The chopper can be fitted with optional MAIZE HEADER or GRASS PICK-UP for grass. The harvester can be used with a tractor or as an attachment on a self-propelled machine.

In accordance with equipment safety regulations, the Champion should only be used as directed. Any other use excludes liability for resulting damage. Use of the machine in accordance with instructions also includes compliance with our operating and maintenance conditions, as well as the exclusive use of original Kemper spare parts.

The Champion should only be used, serviced and repaired by these trained in operation of the machine and its inherent dangers. (See UVV 1.1 § 1).

Figure 1



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## Operating Instruction Version B0507
## English Nr 79382

Chapter

**Dear Customer**

You have made a good choice. We are pleased to congratulate you on your selection of a KEMPER machine. As your partner we offer quality and performance, together with reliable service.
In order to be able to evaluate the conditions of use of our agricultural machines, and to take these requirements into consideration in the development of new units, we ask you to provide some information. This also allows us to inform you selectively of new developments.

**Product Liability and Customer Information**

Product liability instructs manufacturers and dealers to hand over the instruction manual with each machine and to give the customer practical instruction on operation, safety and maintenance.
A multiple form (A, B, C) similar to the one illustrated below is supplied with each Operator's Manual. Confirmation is required that the customer has taken possession of the machine and the Operator's Manual.
For this purpose, send the signed document A to Kemper. Document B is retained by the dealer who supplied the machine. Document C is retained by the customer. At the same time you will be assured that warranty is given.

**EC Certificate of Conformity**

This product has been submitted to the CE test and has obtained the CE approval mark in conformity with the EC Directive 2006/42/EC. A CE Certificate of Conformity is supplied with this manual. This certificate must be handed over to the final owner of the machine together with the Operator's Manual.

**Handing over the Operator's Manual**

**Attention!** Even if the machine is sold at a later date by the customer, the Operator's Manual must be handed over to the new owner.

**Receipt** C

[1] Type: | | | | | | | | | |

Machine No.: | | | | – | | | | | |

[4] Delivery Date | | | | | | | | |

[2] Customer Address:

[5] Address of authorized dealer/importer

Company Stamp/Signature

[3] I purchased the machine described under (1)

**With the delivery of the machine I received the Operator's Manual No. ...**

Customer signature _____ Date _____

Copy for customer

Company Stamp/Signature, if not identical with (5)

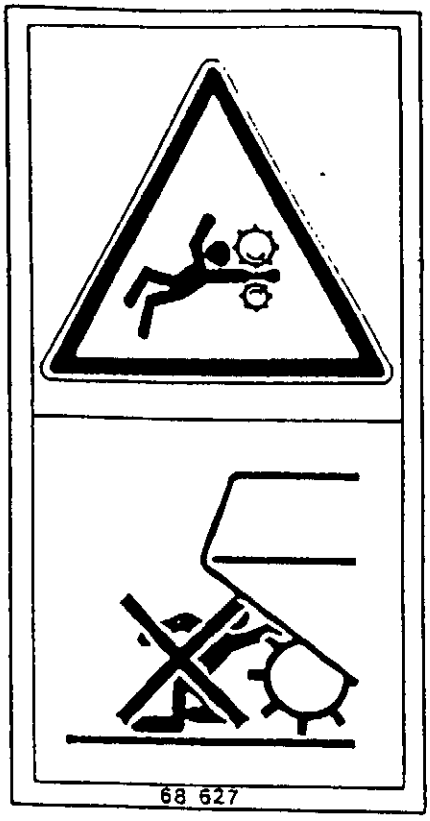
[6] The machine was delivered to customer in conformance with specifications.

Signature of Customer Service _____ Date _____

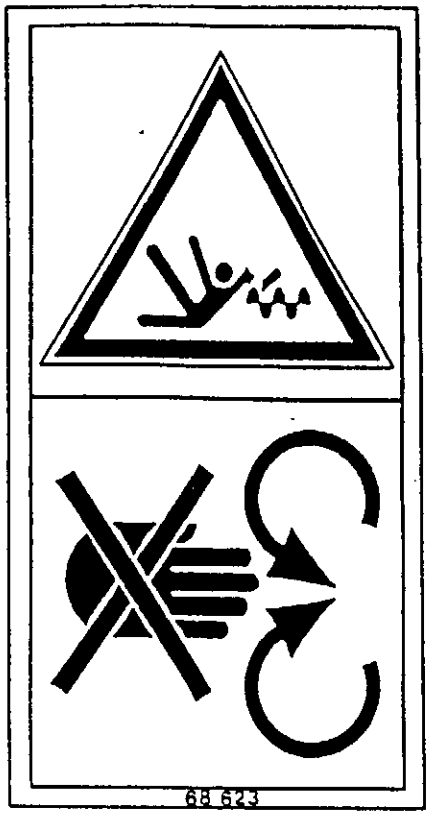
**Maschinenfabrik KEMPER GmbH & Co. KG - Postfach 1352 - D-48694 Stadtlohn**

# Universal precision crop-chopping machine

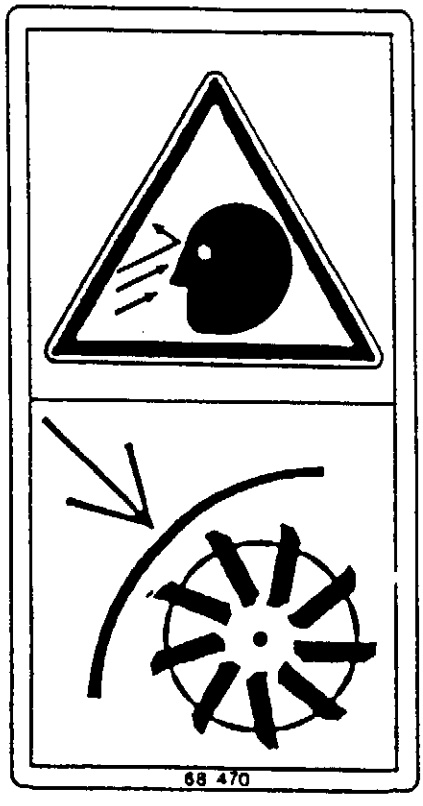
1. Do not stand in the crop intake path.
2. The sharpening unit should only be operated from the side, with the flywheel box closed. Wear safety goggles.
3. Do not feed crop in manually, or by foot from behind.
4. Make sure PTO shaft lever is "Off" and tractor engine turned off when working on the crop-chopper. Caution: the blade rotors continue to run when the gathering drums have stopped.
5. The crop-litter guard should be retracted for road travel.
6. Do not open flywheel box when machine is in motion. Caution: machine continues to run for a while when switched Off.
7. Check that all blades are securely fixed.
8. Connect universal shaft coupling with care.
9. Ensure universal shaft guard is in good order at all times and secure protective tube in position.
10. Do not alter the number of ribs on the universal shaft guard.
11. When working under the machine, it must be supported.
12. On public roads, the ejector chute should be rotated so that the end of the chute, or crop unit, does not project over the side or back.
13. StVZO (road traffic) lights regulations must be observed.
14. When the flywheel is in operation, do not stand within swivelling radius of the ejector chute.
15. Attachments should only be fitted when the machine is on flat ground.
16. Release pressure in unit before disconnecting hydraulic lines. In the event of injury due to hydraulic oil ejected under pressure, seek medical attention.
17. We recommend the use of suitable ear defenders.
18. Before checking machine for blockages, disconnect all drives, switch off engine and ensure all parts have come to a standstill.
19. The height of the machine should not exceed 4.30 m in order to avoid fouling high voltage overhead lines.
20. The crop attachment must be secured with the mechanical locking lever to prevent it from inadvertently dropping down when in transit in road traffic.
21. All machine operating components must be positioned next to the tractor seat guard.
22. Gathering drum speeds over 52 rpm are not permitted due to possible risk of accident. The sawing speed would otherwise be too high.
23. When selecting counterweights for carrier vehicle, make sure that admissible axle load and admissible total weight inclusive of attachments are not exceeded. Check that there is sufficient brake fluid and that tyre pressure is correct.
24. The hydraulic system operates under high pressure. Any hoses showing signs of leaks, rupture or damage must be changed immediately. In addition, all hoses and lines must be exchanged after a maximum of 6 years.
25. The maximum admissible oil pressure is 180 bar.
26. Only use original Kemper spare parts.



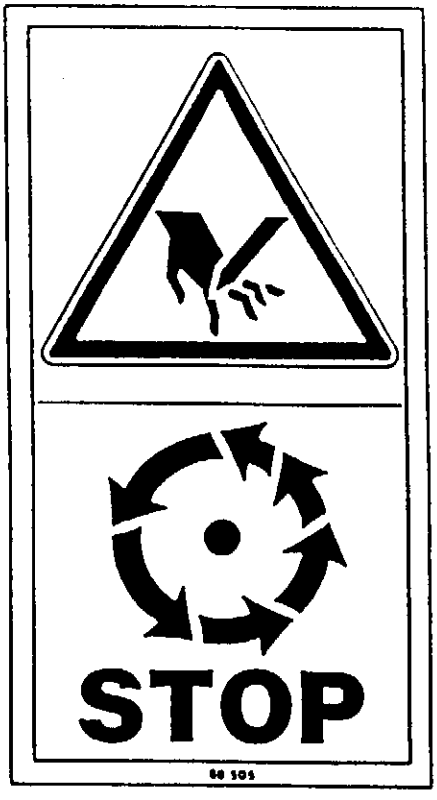

Never reach into pick-up area as long as tractorengine is running with PTO connected.



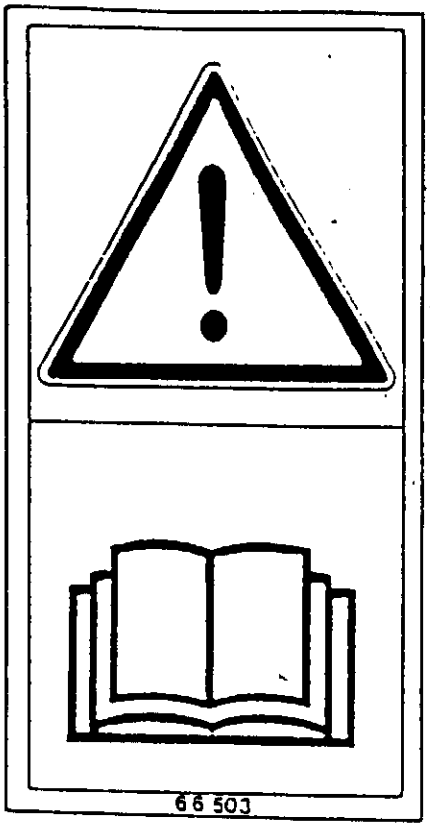

Never reach into rotating auger.



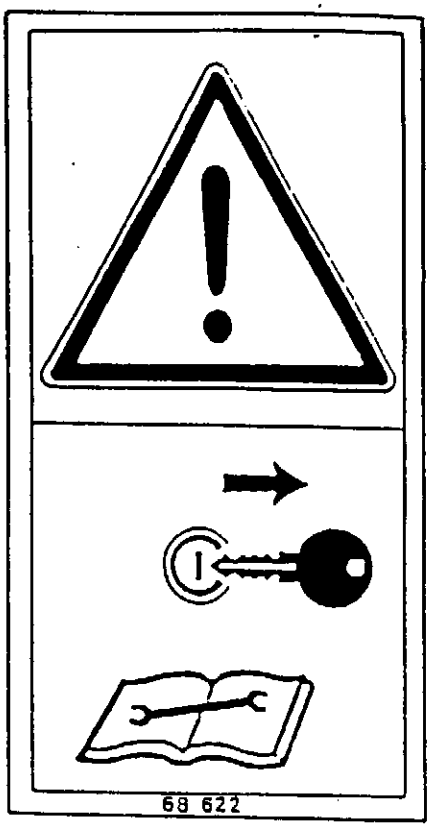

Grinding only with closed disc wheel.
Use safety goggles



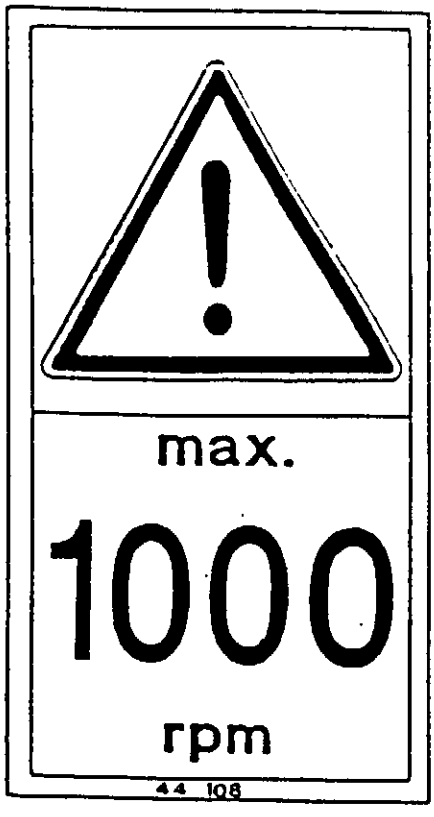

Wait until all machine components have completely stopped before touching them.

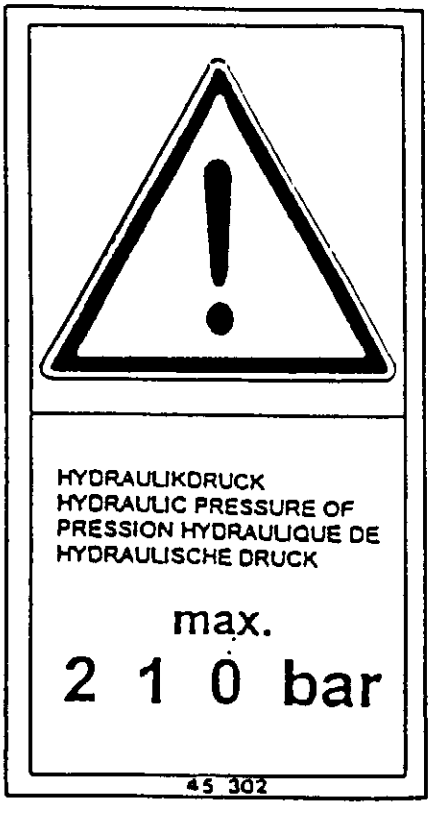


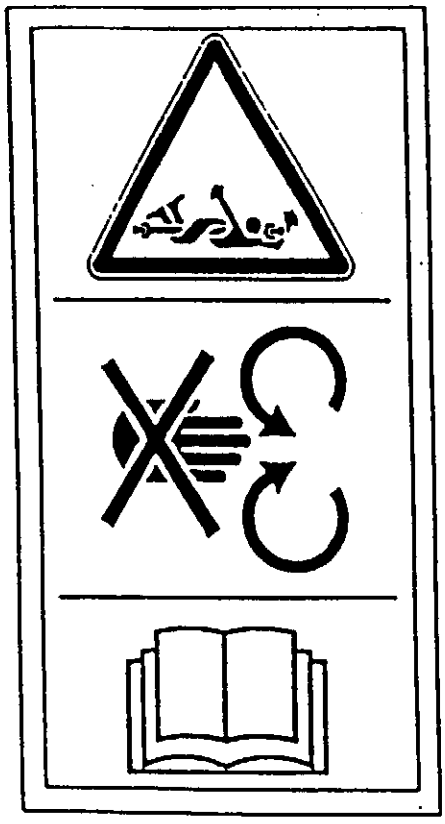

Carefully read operator's manual before handling the machine. Observe instructions and safety rules when opening.




Schut off engine and remove key before performing maintenande or repair work.



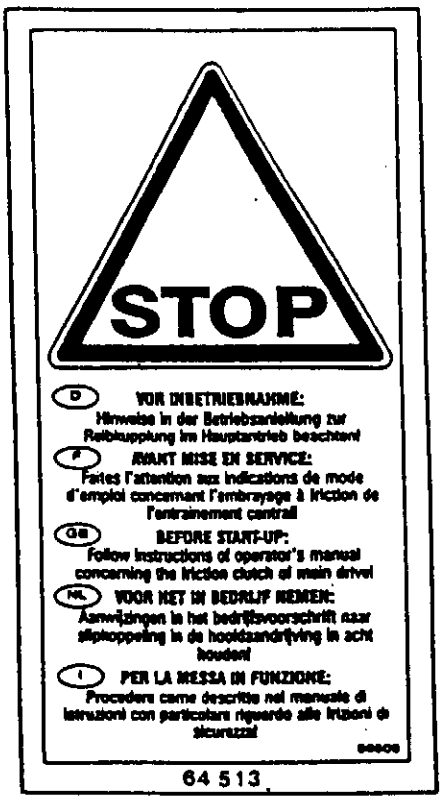





Stay clear of rotating drive line to avoid personal injury.

Read operator's manual.

Change porous hoses immediately.



3.1 At the 1985 SIMA International Agricultural Machinery Show in Paris, the CHAMPION crop chopper was awarded a

**SILVER MEDAL**

This is awarded for new developments representing a technical advance in the mechanisation of agriculture. Kemper was the only foreign manufacturer to receive this award in 1985.

3.2 The Champion was awarded the medal for the technical advance of its new type of MAIZE HEADER which harvests silage maize as well as forage-type crops irrespective of rows, and feeds it to the chopper unit.

3.3 The forage crop is cut by saw blades positioned under the actual rotation intake point. As there is no fixed counter-blade would normally be the case, maintenance costs for a saw blade rotating at high speed, cutting freely through the crop, are virtually nil in practice.

3.4 The rotating feed system consisting of two gathering drums is of simple design and minimizes serving and maintenance costs, as there are no wear parts (such as chains).

3.5 Behind the gathering drums is the feed roll housing, with two precompression falls and two feed rolls. There are two gear drives to support the main bearing points, minimizing maintenance costs.

3.6 The chopper consists of a compensated, adjustable flywheel, 12 cutting blades, 12 exchangeable faceted shear bars, 12 rocker paddles, double-sided coated shear bar, smooth plate and exchangeable crusher plate for grain cracking.

3.7 An integral sharpening stone is provided for precision grinding of the chopper blade.

3.8 4 chopping lengths can be set by means of a transmission gear.

3.9 In the event of sudden malfunction, the operator can switch the header into reverse, neutral or forward from the cab.

3.10 The maize header and grass pick-up can be interchanged easily by means of quick-acting couplings.

3.11 The grass pick-up has a narrow spacing between tines and a large diameter intake auger.

3.12 The chute has replaceable wear plates and is driven through 300 degrees by a hydraulic motor. The worm gear is hydraulic motor driven.
The upper half of the chute is spring-balanced to enable the chute to be raised and lowered easily by one person. A security spring on the side has to be pressed down before the flap lever can be released.

3.13 The chute top flap is driven by a 12 Volt motor.

3.14 The PTO has a one-way clutch fitted on the machine side. There are 4 combinations for coupling the machine:

| | |
|---|---|
| 1 3/8 - 6 | 1 3/8 - 21 |
| 1 3/4 - 6 | 1 3/4 - 20 |

2 types of PTO can be supplied for tractors under 150 hp and tractors from 150 hp to 200 hp.

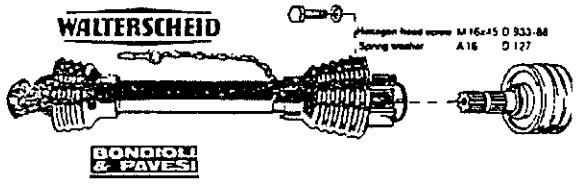



Fig. 2

3.15 The crop chopper can be used with a tractor as well as a front-mounted unit on self-propelled vehicles.

3.16 Tractor requirements:

A 110 hp minimum
B For hydraulic regulation of the chute, 1 double acting control valve and for hydraulic lifting of the header 1 single acting control valve.
C To avoid **current loss**, the 7 pole 12 Volt plug must be connected with a 4-core cable.
+ connection with fuse to terminal 54g
- connection to terminal 31
Connection must be made **direct** to the battery.

3.17 When using self-build machines, please note the following:
A The manufacturer's specification for maximum admissible PTO shaft drive torque
B The PTO drive and PTO shaft must turn without vibration or interference.
C An overrun clutch must be provided on the machine side.

# Seperatly deliverd equipement C2200

## Equipement depending order

Separatly packed is the command terminal, the electric motor, screws, power cable lever to adjust fly wheel, operators manuel , parts catalog , PTO shaft and perforated plates.

Equipement

plates

PTO shaft under 200 hp

# 4.0 Base maschine C2200

## Combined transmission and reversing gearbox

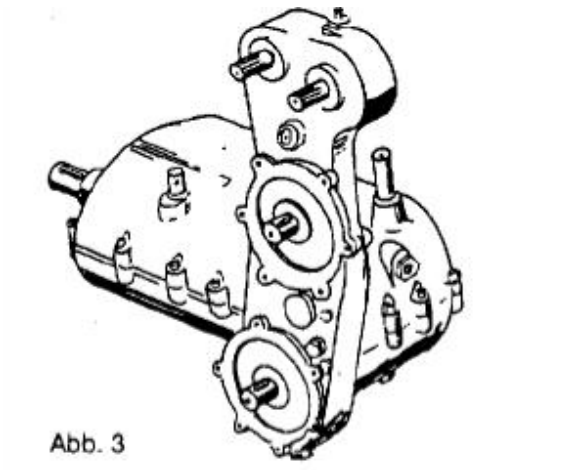


Abb. 3

Forward, reverse and neutral position of the gathering drums is controlled from the tractor cab. **4** different chopping lengths can be Set on the gearbox.

**To avoid damage do not Change gear while it is in motion*!***

## Overload safety clutches on the chopper

The Champion is equipped with **4** overload safety devices.

1. Ball clutch in the bevel gear drive of the gathering drums.
2. Slip clutch on the gathering drum PT0
3. Ball clutch on the top feed roll drive
4. Ball clutch on the bottom feed roll drive

## Height adjustable skids

**A** When operating in stony ground, the skids should be raised so that the header can clear any obstacles
**B** The skids on the torpedo dividers are also height-adjustable.

# 4.0 Reverse – Transmission gearbox C2200

The basic design of the Champion 2200 is always the same (universal precision crop chopper + pick-up). All machines are equipped with a gearbox for 2 flywheel speeds There are two types of gearing:

**Front mounted** - 3-speed transmission gearbox (see Fig. 3F)
flywheel speeds : **Maize 1160 rpm**
**Grass 860 rpm**

**Rear-mounted** - 2-speed gearbox with reverse (Drive PT0 with right-hand turning overrun clutch)
flywheel speeds : **Maize 1064 rpm**
**Grass 916 rpm**

Every gearbox has 2 marks 'M' and 'G' painted on near the oil plug (see Figs. 82 and 83) for easy checking of correct mounting.

**Operating in maize**
See Fig. 82 and 84 for correct mounting. High speed is necessary for grain cracking.

**Operating in grass**
See Figs. 83 & 85 for correct mounting. Changing the gear ratio (see Fig. 82/84 and 83/85).
Another ratio can be obtained by turning the transmission and changing the drive shaft for the PT0 shaft and flywheel.

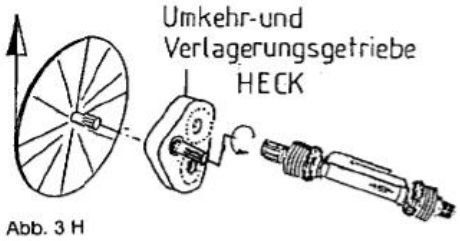


Abb. 3 H

Abb. 3 F

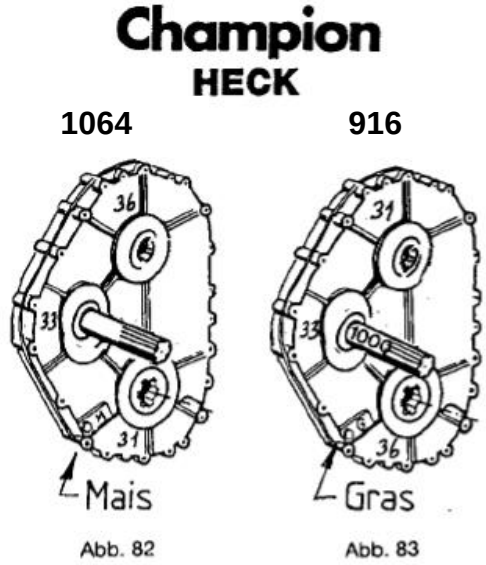


Abb. 82 Abb. 83

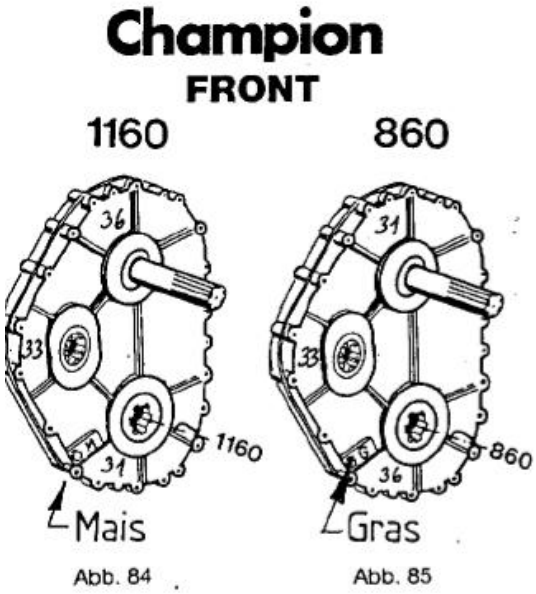


Abb. 84 Abb. 85

# 5.1 Basic adjustments C3000

## Mounting on tractor

### 3-point hitch

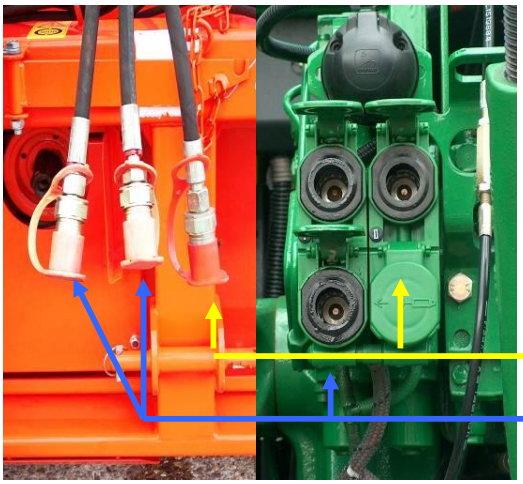
## side shift

Connect the 3-point hydraulic of the tractor with the chopper. Fix bottom attachment points against lateral movement.
Choose tractor hydraulic on „Position“ control
Choose PTO 1000 U/pm

**CHAMPION side shift**
The 3-point hitch is designed such that the chopper can be moved 110 mm sideways hydraulically or mechanically. This is a great advantage when cutting the crop row by row a turning pattern. For hydraulic side shift an additional' double acting control valve is necessary.

You should select the connection affording the lowest cardan shaft extension in the working position. The gap between the chopper casing and flat ground should be about 5 cm

### Hydraulic connection



The chopper needs two hydraulic valves 1 double effect and
1 simple effect
Clean hydraulic tubes before connecting.

*SE = header cylindre*

*DE= Chute move*

# 5.1 Basic adjustments C3000

## Electric connections


The header needs 12 V electricity
Battery +connect with red cable
Battery – connect with blue cable

Socket fix on rear ail

## Support wheels

The height of the chopper can be adjusted by the support wheels.

1. If there is uneven ground
2. To choose height for mounting on tractor

The gap between the chopper casing and flat ground should be about 5 cm

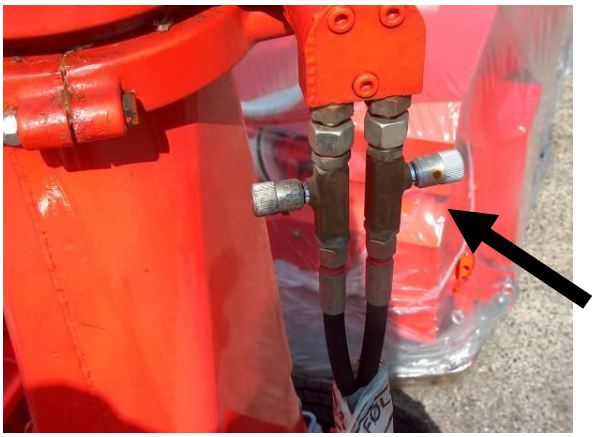
## Horizontal attachment

The chopper must be attached in horizontal position

The top-point is fixing the chopper parallel behind the tractor

# 5.1 Basic adjustments C3000

## Rotating speed of the chute



The chute is rotated by a hydraulic motor. The speed of the chute motor can be set by 2 adjustable one-way restrictors.

## Transportpositon chute

To respect the legal transport height of 4 m, use transport facility.
Take off security blade and lift security lever. Put distance bloc into chute and fix chute in bottom position.

Upper fixing point
lower fixing point

The springs helps to move up and down the chute The higher the tension is the easier it is to move.

# 5.1.1 Preparing to work C2200

## Assemble chute

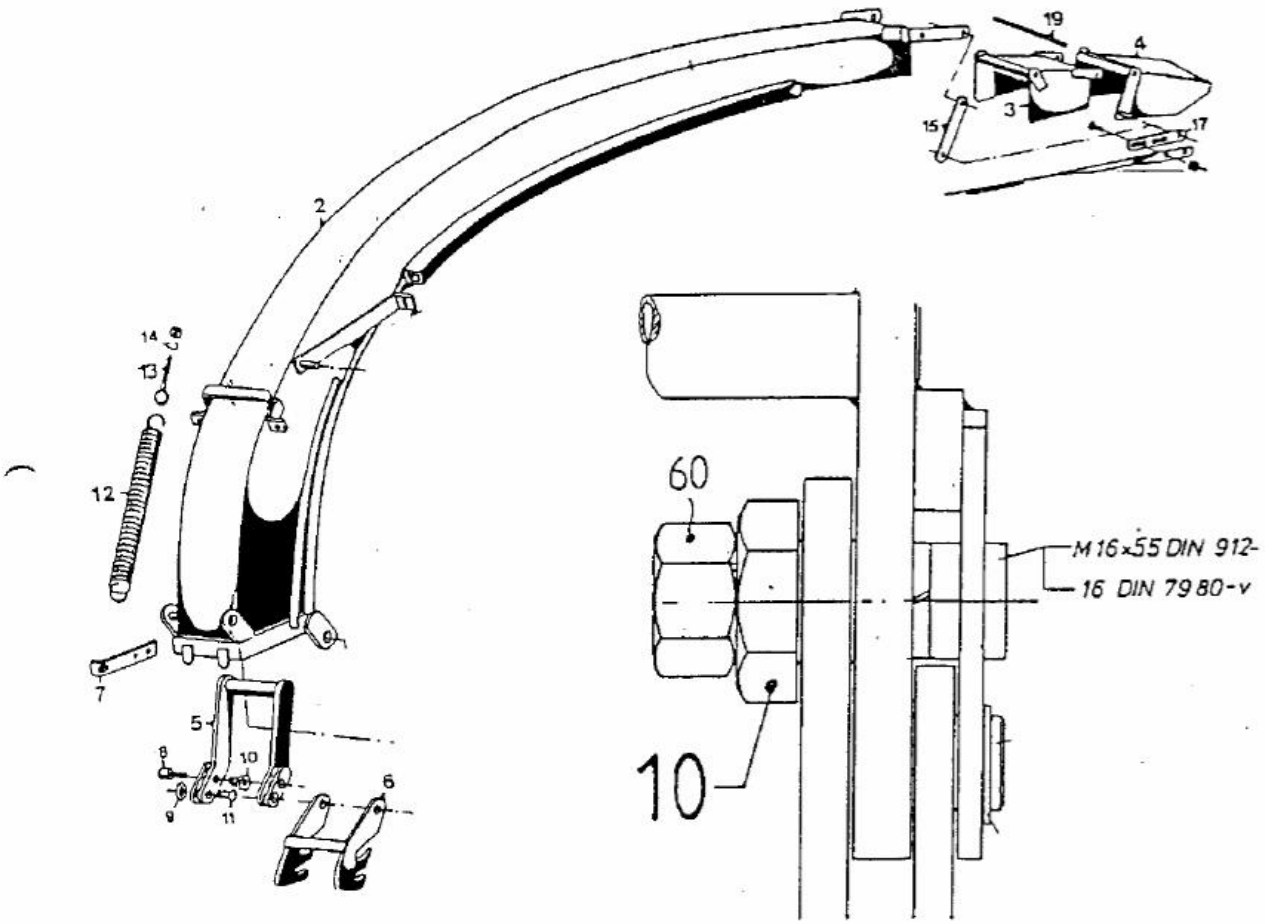
Fix electric motor on chute of new chopper.

Take of bolt
release screw and put motor in position

The cable is connected with motor by passing thru tube

Make sure that chute can turn without crashing the cable. Let big loop to cable.

## NOTES ON EJECTOR CHUTE



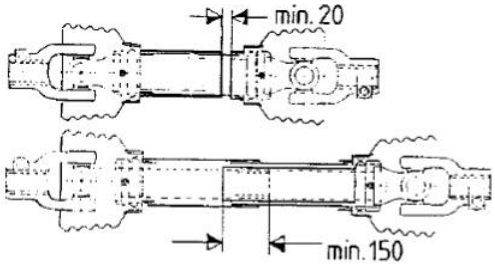

1. Top chute section fixed to lower support by means of parts 5 and 6.

2. There will be a certain degree of wear in the first few days of use. This wear must be eliminated regularly by means of the eccentric nut 10, especially at the beginning.

# Basic adjustments C2200

## Adapt PTO shaft

**Attention:** ball clutch has always to be fixed on the chopper side!




The length has to be adapted corresponding to the tractor. The minimum doubling of the shaft is 150mm

## Main drive

To adapt PTO shaft, take off cardan protector Release small screw.

The Champion chopper is factory set for connection to the 1000 rpm PTO Hold top and turn tube protector. Security will release.

# Basic adjustments C2200

Pull back tube.


The ball clutch is fixed on the chopper shaft with a 16X45 8.8 bolt. For security reasons the bolt is fitted with Loctite and torque.

Push shaft up to the end . Clean PTO shaft.

Fit screw from the inner side of the PTO shaft.


Clean screw M 16X45 8.8 from grease and dirt. Put Loctite 234 on.

Screw is fixed with a torque of 190 Nm. Reassamble PTO shaft protector the other way back.

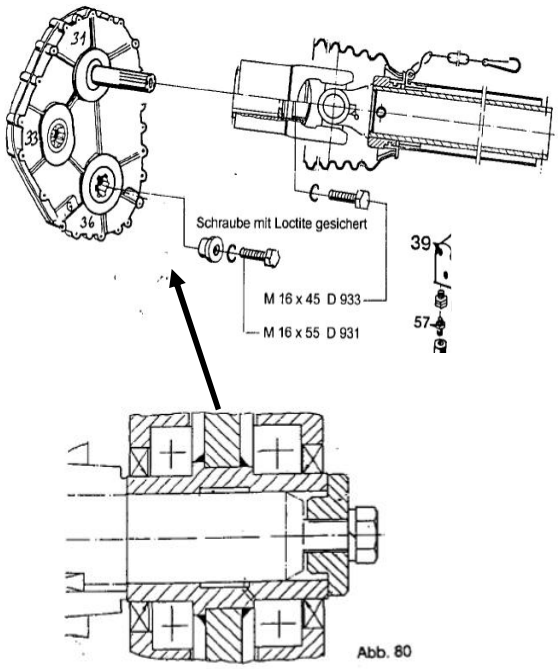



Abb. 80

**Assembly instructions**
To avoid power loss in the transmission on assembly, the assembly sequence must be followed:
**A** Mount the gearbox on the flywheel as in Fig. 80. Torque for M16 bolt = 180 Nm.
**B** Set gearbox in the most favourable position for connection to the PTO.
**C** The gearbox can be fixed without tension by rotating the eccentrically drilled sleeve (see Fig. 81). Torque for M20 = 360 Nm.

The transmission is coupled onto the flywheel drive shaft with 7 position options, so that the PT0 can be aligned as straight as possible in the working position, even with the most unfavorable PT0 connection position.

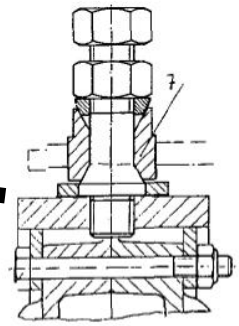
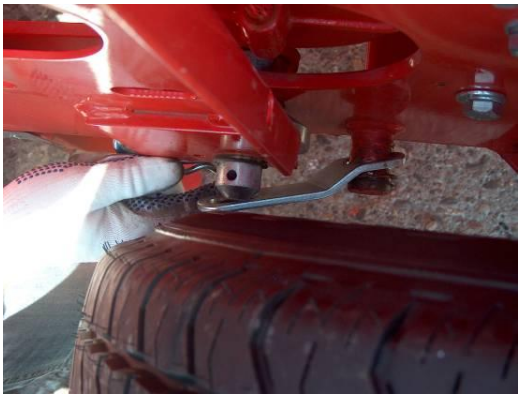



Abb. 81

## Connecting the header



Move backwards and connect at first bottom fixing points. Safe with lock pin.

Release security and lift stand.

Conncet top attachment cylinders and safe with lock pins.

Connect spring and lock it

## Release transport securities

The header must be secured against inadvertent lowering with the mechanical locking bolts when the machine is moved on the road.

## At work

Change position of plate to liberate into floating position. Lock with lock pin.

The header unit is hinged onto the chopper with a main spring balance. Adaptation to ground contour is achieved with the two height-

adjustable skids on the maize header divider prongs.

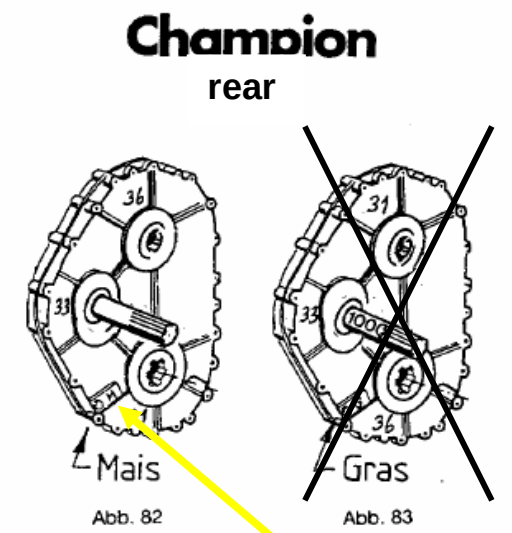



Abb. 82 Abb. 83

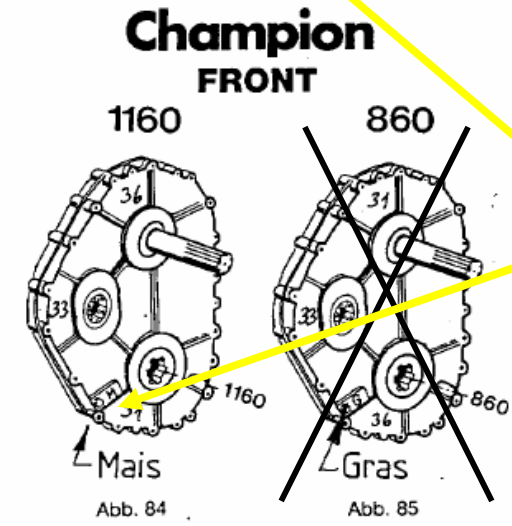



Abb. 84 Abb. 85

According to the machine type (front or rear chopper) change PTO shaft of gearbox.

- Front or rear mounted
- Gras or Maize harvesting

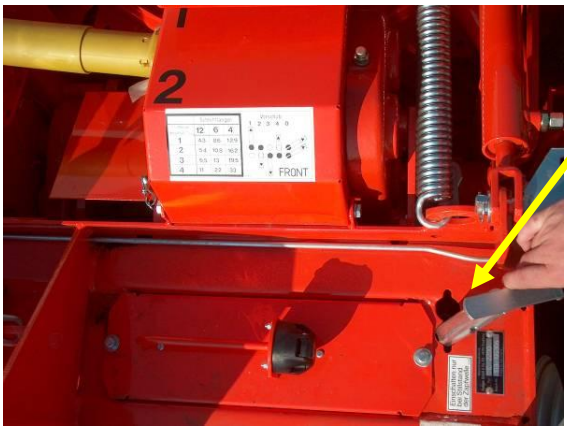
For Maize harvesting “M” must show to tractor

**Attention: connect friction clutch on chopper gearbox**
Which shaft to choose look cutting length

**Important!**

Before first use of the machine make a service on friction clutch. Tighten bolts. Let chopper turn for 10 seconds. Discs will slip. Then release bolts up to top completely.

## Cutting length




The cutting length gearbox has two possibilities to change gears. To pass lever into second position gearbox has to be in neutral position.

**Attention**
**To pass between gears 1+2 to 3+4 gear levers have always to be in neutral position.**

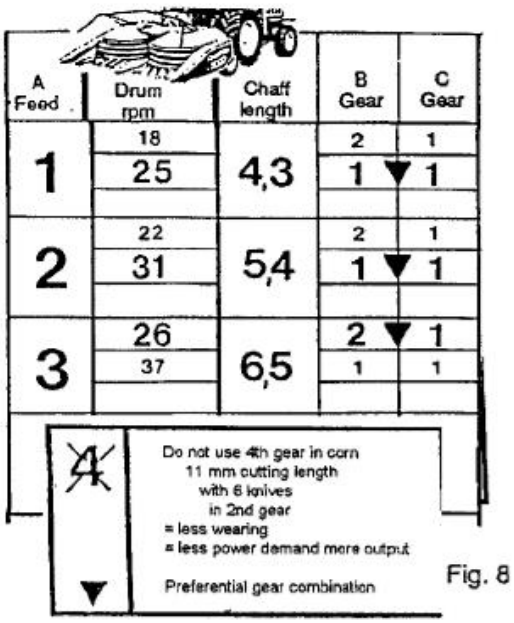


Fig. 8

An equal crop flow to the chopper garantees a good chopping quality and higher working speed. The optimal drum rotation is about 20-30 1/min, lock table.

1 = fast drum rotation
2 = slow drum rotation

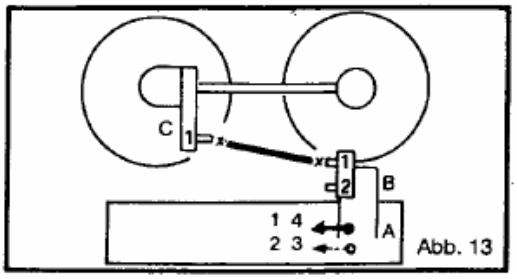


Abb. 13

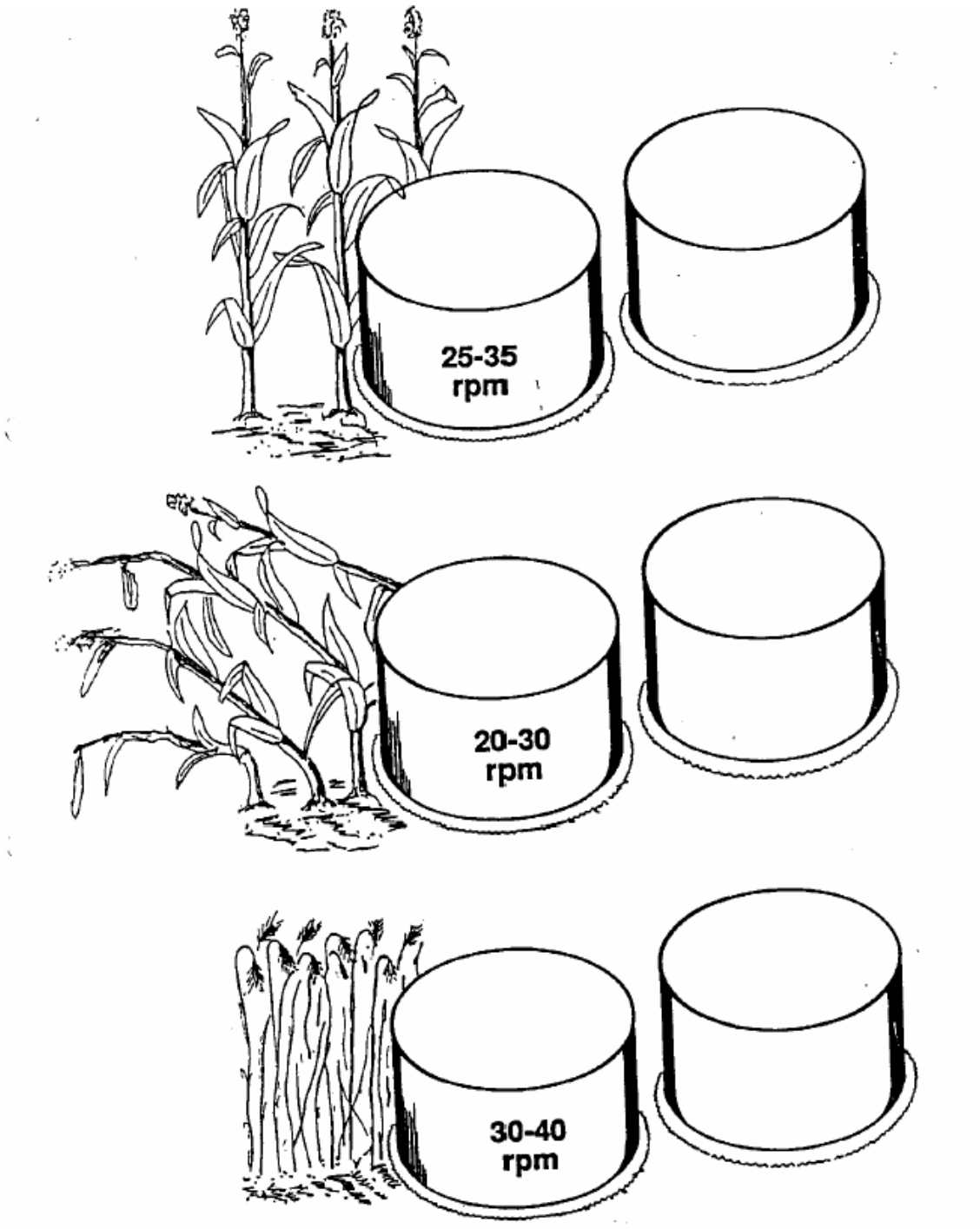



Fig. 86

# 5.3 Maize harvesting C2200

Engaging the maize header drive "Engage and disengage the drive to the header as little as possible."
In contrast to chain type headers, the gathering drum speed should be observed to protect the cutting assembly drive.

## ALWAYS START AT NO LOAD

Due to the high inertia of the rotating Parts, start up the header at the lowest possible speed and always without any load.You may reverse and re-engage the header at full speed if there is a blockage. In practice, this works best at full speed. Engaging and re-engaging the header (and reversing if there is a blockage) at full speed is then possible provided the blade rotors have more or less maintained their speed by running in neutral.5.8 Gathering drum speed The correct gathering drum speed for coarse stemmed crops such a maize, beans or sunflowers is as follows:

| | |
|---|---|
| Laid maize | **20 - 30** rpm |
| Standing crops | **25 - 35** rpm |
| Whole crop silage | **30 -40** rpm |

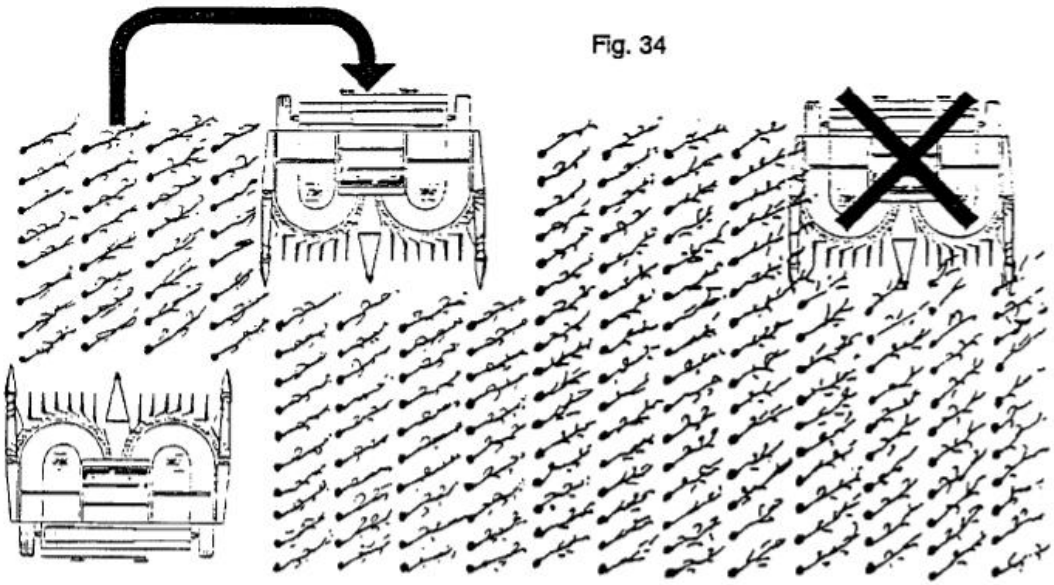
The speed is higher for whole crop silage as the sawing speed needs to be higher for thin-stemmed crops to ensure optimum cutting. For further advice See below.

Crop flow

To ensure srnooth crop flow through the machine, a large volume is needed for both maize and whole crop silage (this also applies to short maize). Speed should therefore be as high as possible. Two maize rows or one only should not be harvested from the middle, but with one gathering drum only. This ensures a better material flow, the stems are not broken off and driving is more cornfortable. See Fig. 30.

Harvesting short maize In principle, a high speed is needed for harvesting short maize, to ensure smooth crop flow. The guide rail must be lowered or the road guard system retracted. See Fig. 31.

Fig. 34



## Switch off rotating dividers

The rotating dividers can be switched off.
Lift lever an pull sideways to release v-belt

Put v-belt into ring to avoid turning and to prevent wear.

Readjust tension of belt with screw

## Road protector

In road position pull down protector

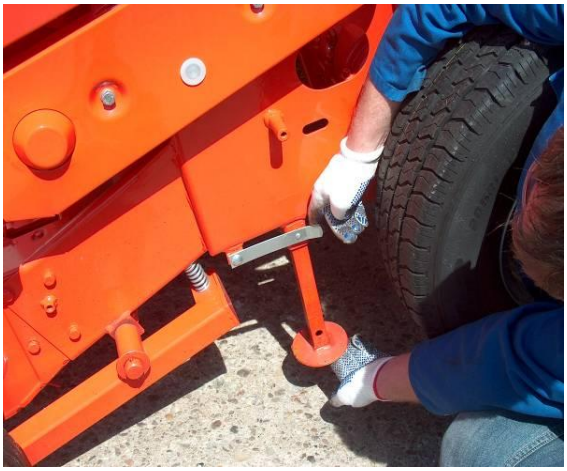
In working position lift up an fold protector.

# 5.4 Modification for Grass Harvesting C2200

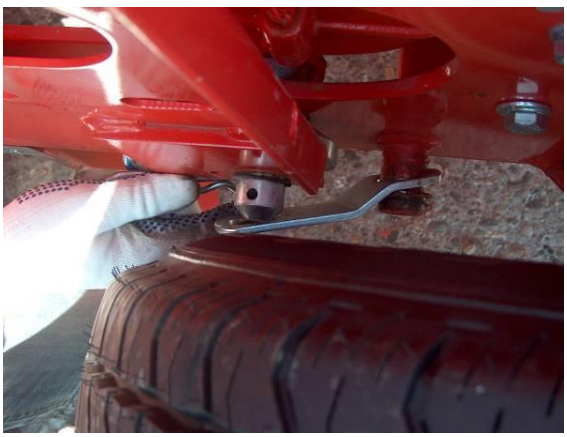
## Mounting Pick-up

The Pick-up should only be mounted on choppers **with Metalldetector**!
Grass harvesting contains a higher risk to pick up metall parts.

Connect pick-up with bottom points and release stand.

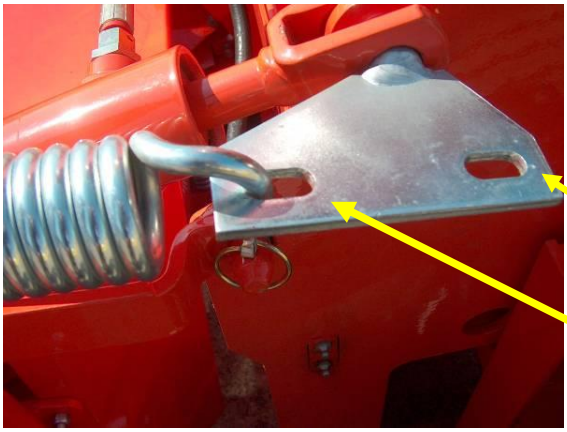


Release security and lift stand.



Close at first bottom connection point.

# 5.4 Modification for Grass Harvesting C2200



Drop down chopper to get pick – up close. Connect spring and suppor

High initial load

Little initial load

Connecting PTO shaft

Push simple spider on gearbox shaft of pick-up.

**Attention: connect friction clutch on chopper gearbox**
Which shaft to choose look cutting length

**Important!**

Before first use of the machine make a service on friction clutch. Tighten bolts. Let chopper turn for 10 seconds. Discs will slip. Then release bolts up to top completely.

# 5.4 Modification for Grass Harvesting C2200


Control and grease daily chain of pick-up.
To control use special perforation.
To tighten chains take off protector.

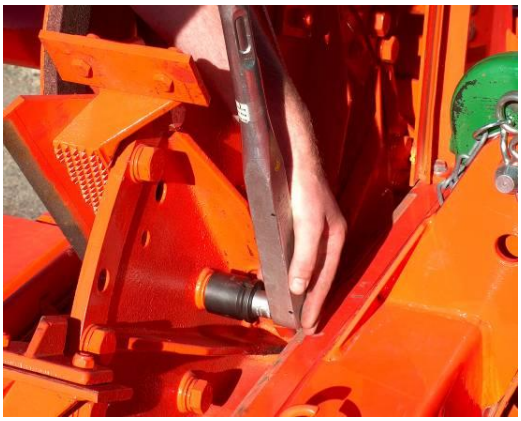
Release bolts of protector and use tighten bolts for higher tension

After tightening lock security bolts and replace protector.

# 5.4 Modification for grass harvesting C2200

## Take out 6 knives


For grass harvesting it is necessary to take out 6 knives with knive holder.



Release three bolts M 20X 45 8.8

Take out complete knive holder

The interchangeable perforatetd plates have to be replaced by the smooth plates for grass. See interchangeable plates

# 5.4 Modification for grass harvesting C2200

## Inverse transmission gearbox see chapter 4.0

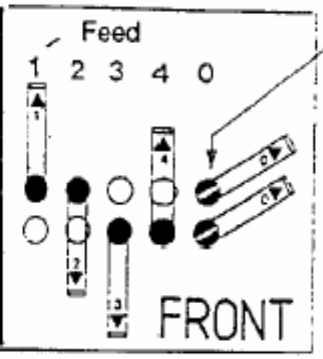
## Special checks before using for grass harvesting

1. Drive with a maximum of 6 blades only (as new a set as possible). See Table 26
2. Remove all other blades, blade holders and elevator paddles.
3. Tighten all the screws on the blade wheel with a torque wrench.
   Blade holders and elevator paddles = M20 = 360 Nm
   Blade fastening screws = M 12 = 130 Nm
4. Sharpen the blades and adjust the blade wheel
   Difference to ledger plate = 0.2-0.5 mm. See Illustration 22/23
5. Check ledger plate and turn-over or replace if necessary. Shorten both, install and bundle the side ledger plates ensuring there are no spaces between them. (Illustration 21) Tighten all screws!
6. Rotate the elevator paddles if the edges are excessively rounded.
7. Replace damaged elevator paddles immediately.
8. Check both smooth wear bases in the chopping unit. Replace if necessary.

## Pick-up attachment intake speed

The pick-up should not be operated faster than necessary. This will reduce unnecessary wear. The infeed setting of **4** produces a cutting length of 11. increased cutting lengths can be achieved by evenly removing the chopping blades, beating arms and elevator paddles.
The PT0 shaft connection is from B2 to D. (Pick-up drive). The PT0 shaft connection is from B1 to D when in feed 3 is used for harvesting. The revolutions of the pick-up and the auger can be further reduced by changing from B 1 to B 2 when driving speed and crop allow.

| Kemper | Cutting lengths | | |
|---|---|---|---|
| Cutter / Feed | 12 | 6 | 4 |
| 1 | 4,3 | 8,6 | 12,9 |
| 2 | 5,4 | 10,8 | 16,2 |
| 3 | 6,5 | 13 | 19,5 |
| 4 | 11 | 22 | 33 |



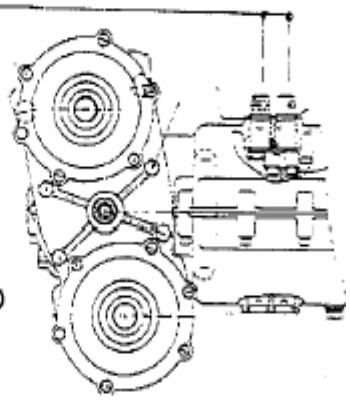



Fig. 20

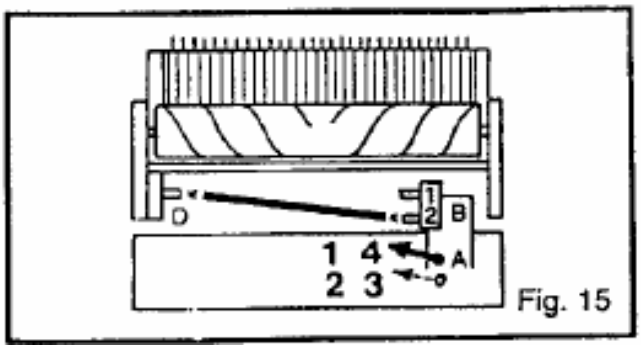


Fig. 15

# Operating instructions for whole crop silage

In view of the growing interest in this form of silage, a kit has been developed (for whole crop silage. winter barley. winter wheat, field beans, alfalfa, rapeseed, etc) for the pick-up, with which wile crop silage is possible in certain circumstances. The primary function of the header is for coarse-stemmed maize. Taking into account the advice below, in corresponding favorable conditions, such as standing dry crops, a good result an be achieved, hut certain compromises are necessary for the cutting height, due to the construction principle and cutting System design. Laid crops can also be successfully harvested, depending on the type of ground.
In extreme conditions, such as laid wet crops with undergrowth on sandy ground, experience in traveling speed. direction and the use of crop lifters is necessary. Forward speed, cutting rotor speed, gathering drum speed In our experience, high speeds must be maintained for whole crop silage harvesting. As the traveling speed and gathering drum speed are interdependent, only general guidelines can be given here. as the crop itself is also a factor of influence.

Forward speed To maintain a proper material flow it is important to have a large quantity of crop (as for short maize). Forward speed should be 10 - 12 km/h. IMPORTANT To obtain a proper cut, the sawing speed for thin-stemmed crops should be higher than for maize or sunflowers.

**CAUTION**
The maximum speed of the gathering drum of 61 rpm must not be used due to the risk of injury (See introduction 4.12). The saw speed would likewise be too high. In very laid crops, crop lifters may be necessary. In this case, 1 crop lifter will be fitted at the front of each gathering drum before the small divider prongs, Part N. 57517.

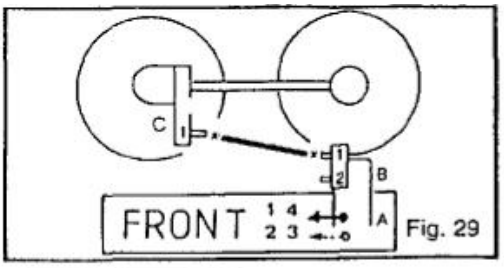


Fig. 29

**12 chopper blades**
(values shown in brackets for 6 chopper blades

| A Feed | Drum rpm | Harvesting length | B gear | C gear |
|---|---|---|---|---|
| 3 | | 6,5 | | |
| | 32 | (13) | 1 ▼ | 1 |
| 4 | 28 | 11 | 2 | 2 |
| | 36 | (22) | 2 ▼ | 1 |

▽ - Drum revolutions for whole crop silage
● - Do not use drum revolutions! Rotor turning too fast – danger of accident!

Fig. 28

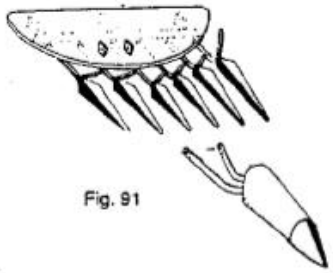


Fig. 91

**Accessories for whole crop silage**
B. Cracking plate for further cracking of the crop. Part No. 58605
C. See Fig. 91. Part N. 57517

**Chopping rape seed**
Harvesting of Tape is possible under certain conditions, such as minimum height, low gathering drum intake speed and low engine speed. High traveling speeds are necessary here too, to ensure a smooth crop flow.

**Chopping cereals**
This crop can also be harvested. Same degree of experience is necessary here, as necessary for any little-known crops.

# 5.6 Sharpening Device C2200

To obtain an optimum chopping quality use the sharpening device several times a day.

## Working with the Sharpening Device

Start chopper; PTO with **580 rpm**;
**header is out of work!**
The disc must revolve when sharpening; eventually the revolutions of the tractor must be increased until sparks fly.

open sharpening stone protector

Release security bolt of sharpening device.

Move the sharpening disc carefully towards the blades. After contact has been made between blade and sharpener, turn the rear star handle a further ¼ turn.
After this adjustment, the shaft of the sharpening disc is prevented from moving further against the blade by the star handle on the side.

**Note:** The sharpening disc is harder with increased revolutions and softer with reduced revolutions. If the sharpening disc seems to be too hard it is because of the high number of revolutions of the blade wheel. Too hard: reduce revolutions Too soft: increase revolutions With too many revolutions there will be a smooth and shiny sharpening disc surface. With a lower number of revolutions, the disc will have a good grip. If this does not happen immediately, the contact pressure should be increased for a short while. It is often enough to slightly score the wheel with a flex.

After sharpening:
- turn back sharpening device
- fix it with lock bolt
- close protector

# 5.6 Sharpening Device C2200

## Adjust chopping wheel!

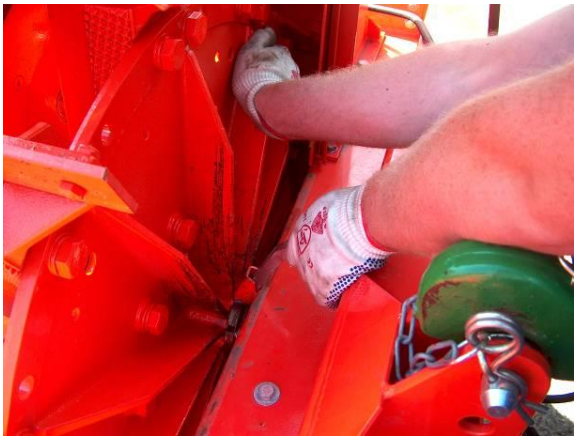
After sharpening the chopping wheel must be adjusted towards the counter blade. Even to compensate for wear check twice daily that the blades are parallel to the share bar.

Open wheel protector.

Release securing spring to release nut.

Insert 16 mm rod in adjusting nut

# 5.6 Sharpening Device C2200

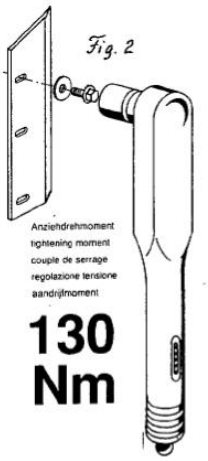


Turn flywheel manualy until the blades touch the share bar.

Then turn flywheel one spring turn back.

The flywheel should not touch the share bar. Repeat adjustment.
The gap between the blades and share bar should not exceed 0,5 mm.

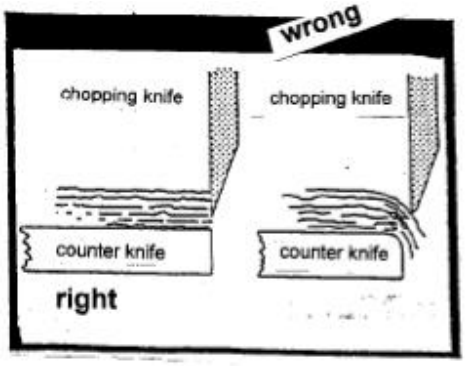
The blades positionning is obtained by the long wholes. Even often sharpend blades can be set close to the shear bar.




**Attention: Respect torques**

# 5.6 Sharpening Device C2200

## Change or turn shear bar!




Control counter blades often.This saves fuel and ensures good chop quality

See prcompression drums

## Ejector plates

A high transportation performance of the chopped crops is depending on good ejectors. They can be turned four times.

## Alignment of the flywheel

The flywheel is completely aligned at the factory. For this reason use only genuine Parts. Blades. blade holders & rocker paddles can only be changed as pairs.

The maxirnum allowable weight difference is 20 grams.

# 5.7 Interchangable plates C2200

**Depending of the harvesting crop the ground plate of the chopping wheel has to be changed.** The Champion is designed with easily interchangeable:

- Smooth plate for grass
- Perforatetd cracing plate for maize
- If the C2200 is equipped with UNICRACKER a smooth plate is needed

## The Champion chopper has a bottom and a side plate.

Change of side plate:

Lift chopper
Release bolt and
Fold support wheel sideway

**Attention!**
**Hold up the side plate, otherwise it fall down.**

Release lever and pull plate

Take out plate on bottom side of chopper

# 5.7 Interchangable plates C2200

**Improtant:**
Place center bolts into wholes in housing for correct working

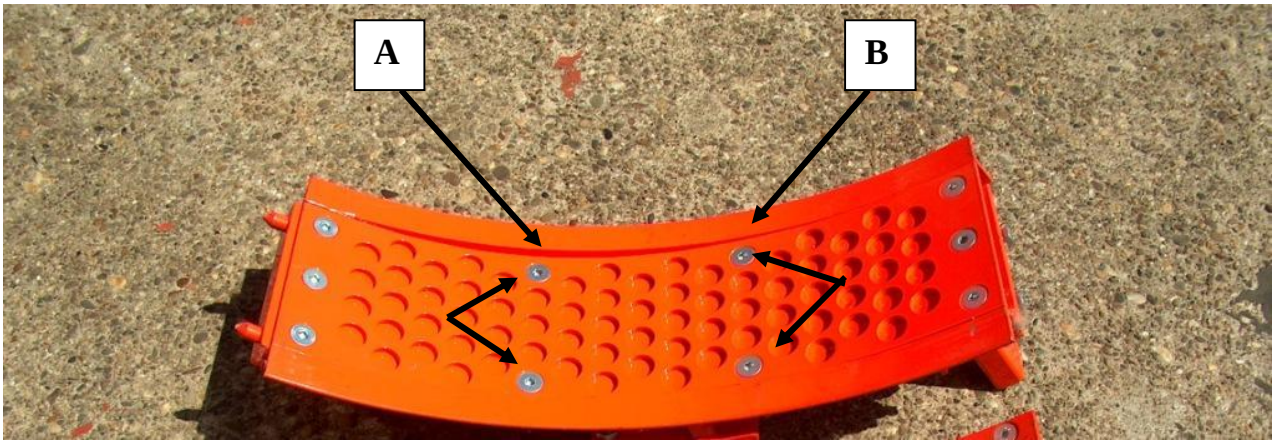
## The side cracing plate can adjusted to different corn diameters

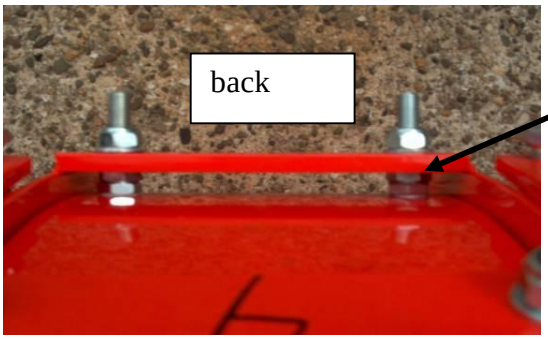
The cracking plate works by means of an interchangeable perforated plate and varying the gap from the rocker paddles: The plate must fit flush at the bottom.

The gap is 8 mm at section A-B, and 3 mm at section C-D.

The bolt **A** is factory side put at 10 mm distance.

The bolt **B** is factoy side put at 3 mm distance.




Release security nuts
After changing the distance tighten security nuts.

# 5.7 Interchangable plates C2200

At the top the plate should be fitted as close as possible to the rocker paddles for ejection capacity.

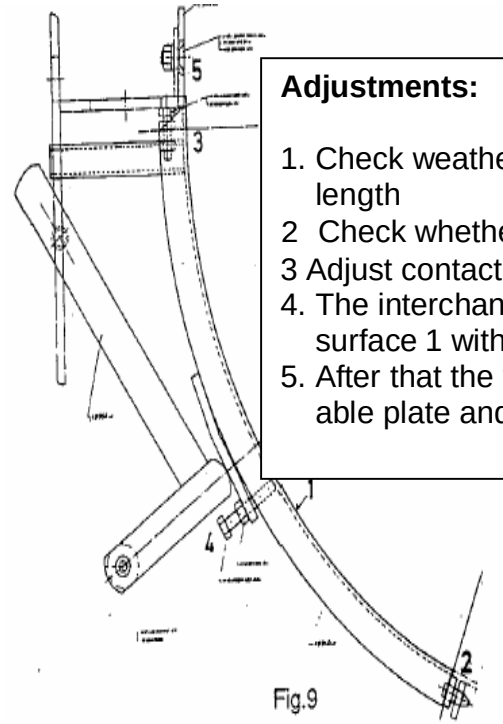


Fig.9

**Adjustments:**

1. Check weather the interchangeable plate covers the entire length
2 Check whether the contact points coincide
3 Adjust contact point II if necessary. with screw M4x10
4. The interchangeable plate can be applied to sealing surface 1 with screws M12x60
5. After that the wear plate is positioned on the interchange-able plate and screwd tight.

# 5.7 Interchangable plates C2200

## Change of the bottom plate

Lift chopper to change. The bottom plate ca be changed by releasing ten bolts.

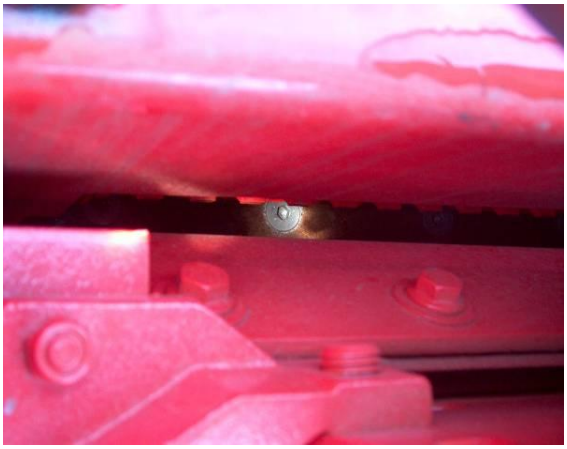
10er release bolt

## Dobble use of plates

The effective use of the cracking plates can be doubled by turning working direction.

# 5.8 Check and change shear bar and adjust smooth roller C2200

## Check shear bar



From the top of the fly wheel the shear bar can be checked visually

To change shear bar lift up intake rollers. Therfore release one tour both sides the upper front bolts

Take of bottom bolts on both sides.
M12X 30: 2 left side
2 right side

## 5.8 Check and change shear bar and adjust smooth roller C2200

Lift up feed rollers with a long tube.

The PTO shaft will open. For readjusting PTO shaft has to be put in together

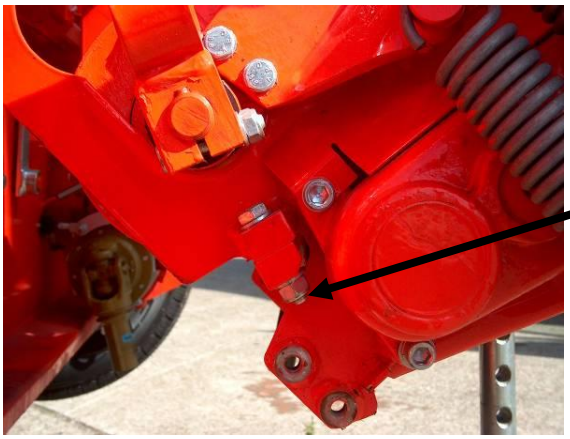
Before working put stand under lifted rollers.

# 5.8 Check and change shear bar and adjust smooth roller C2200

## Change shear bar

The shear bar can be checked, changed or turned

## Adjust scraper of smooth roller

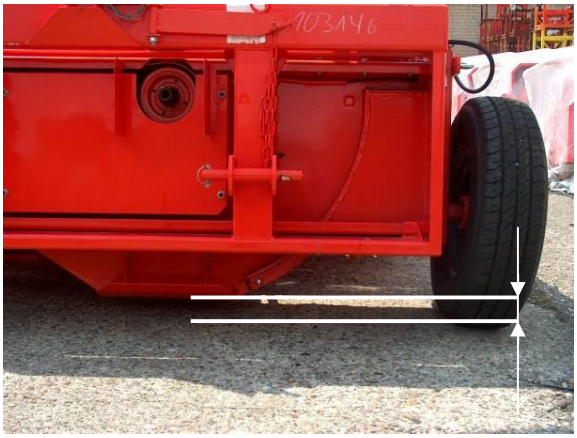


To adjust scraper release bolt M12. Adjust the scraper so that the gap between this and the smooth roller is no more than 0,5 mm and tighten screws firmly.

# 5.10 Working with the chopper C2200

## Working conditons of the header

Connect header in base position so that PTO shaft is horizontal. Choose length of the top point so that chopper is vertical behind the tractor.



To avoid damages on the chopper during the work adjust support wheel to obtain 5 cm between ground and the fly wheel housing.


Lift tractor hydraulic about 12 cm that wheels do not touch the ground by harvesting.

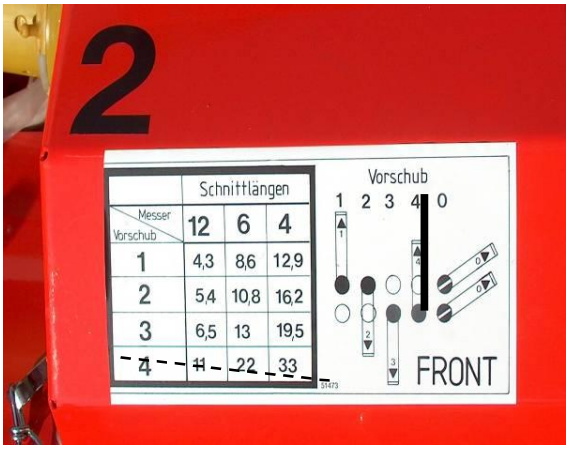
**To lift header at the end of the field use only hydraulic cylinders on the chopper.**

# 5.10 Working with the chopper C2200

## PTO revolutions

Use PTO 1000 rpm

To obtain an regular an good chopping quality keep PTO revolutions regular.



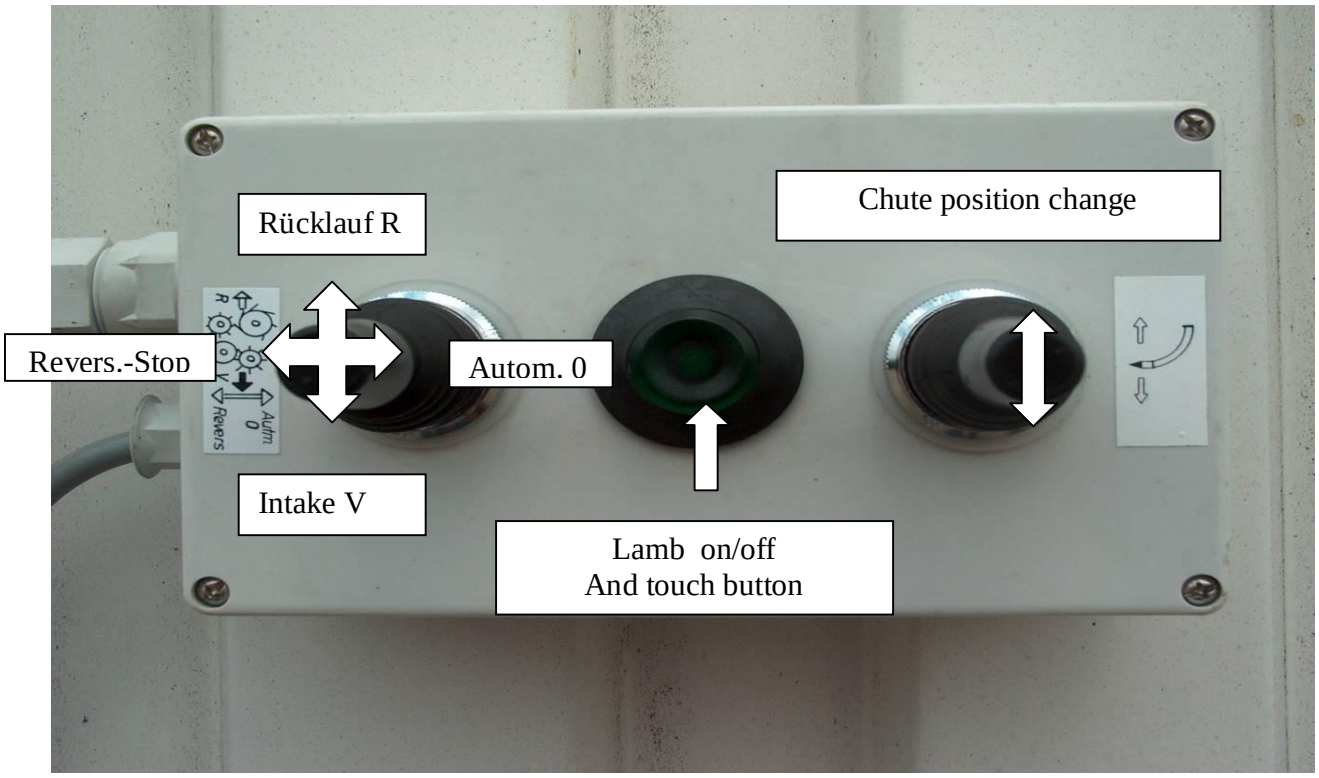

Never use 4 th gear for security reasons and to protect gearbox.
If you need different cutting length take out knives.

## Connecting intake components


When commissioning the crop-chopper, whether with the rnaize header or the grass pick-up, we always recommend running the intake unit with the tractor idling.
Due to the always speed of the blade rotors and relatively high oscillating mass, intake at full speed should be avoided as far as possible.
Engaging and disengaging (reversing in the event of blockages) at full speed, including in quick succession, can then be done provided the blade rotors more or less maintain their speed in relation to idling.

# 5.10 Working with the chopper C2200

## Command terminal




„Revers – Stop“ =function activ only with metal detector. To release grip security

„Revers“ = gearbox moves backwards

„Intake“ = gearbox runs intake

Automatic O = gearbox changes into neutral position

# 6. Lubrication Chart

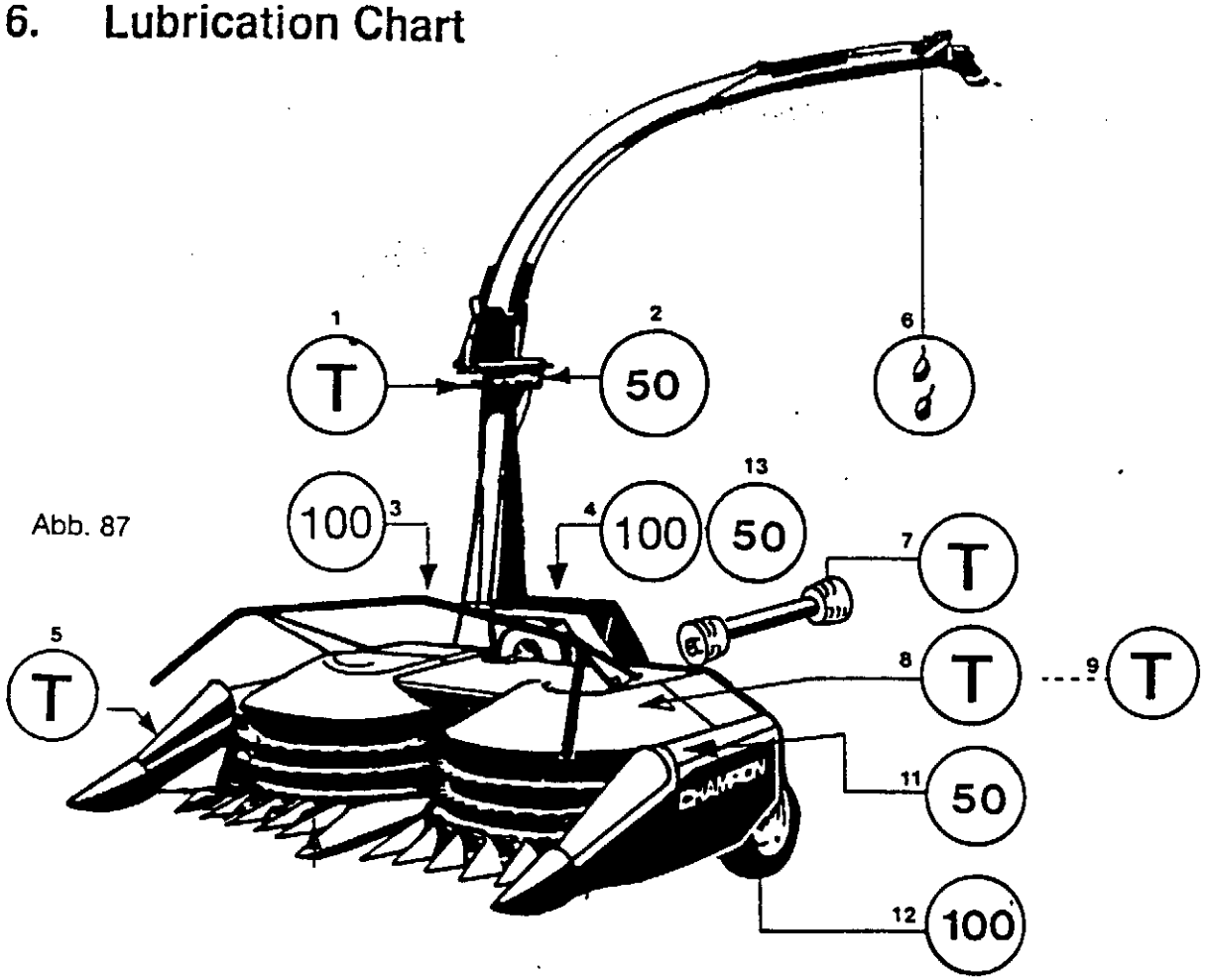



Abb. 87

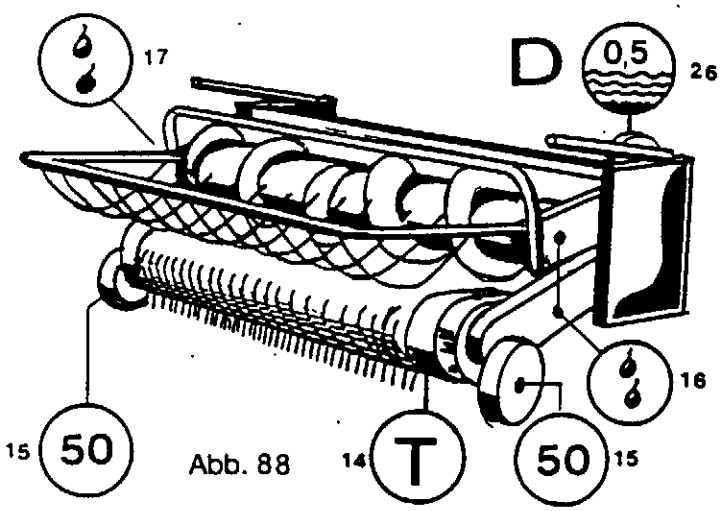



Abb. 88

50 = Lubricate after every 50 hours of operation

30 = Lubricate after every 30 hours of operation

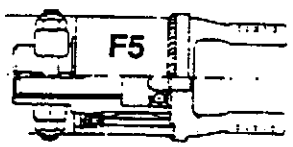
T = Lubricate daily

1 = 1 litre gearbox SAE 90

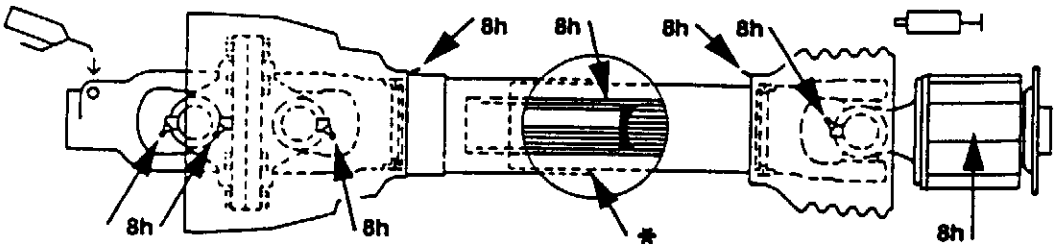
= Oil all hinge points.

Abb. 89

Schmierplan
Frequency of lubrication
Plan de graissage




Vor Inbetriebnahme abschmieren
Grease before putting into operation
Graisser avant mise en service




* Im Winterbetrieb sind die Schutzrohre zu fetten, um ein Festfrieren zu verhindern!
* When used in winter, the guard tubes must be greased to prevent them from freezing solid!
* Avant l'utilisation en hiver, graisser les tubes protecteurs contre le gel!

h = Betriebsstunden
h = hours in operation
h = heures en service

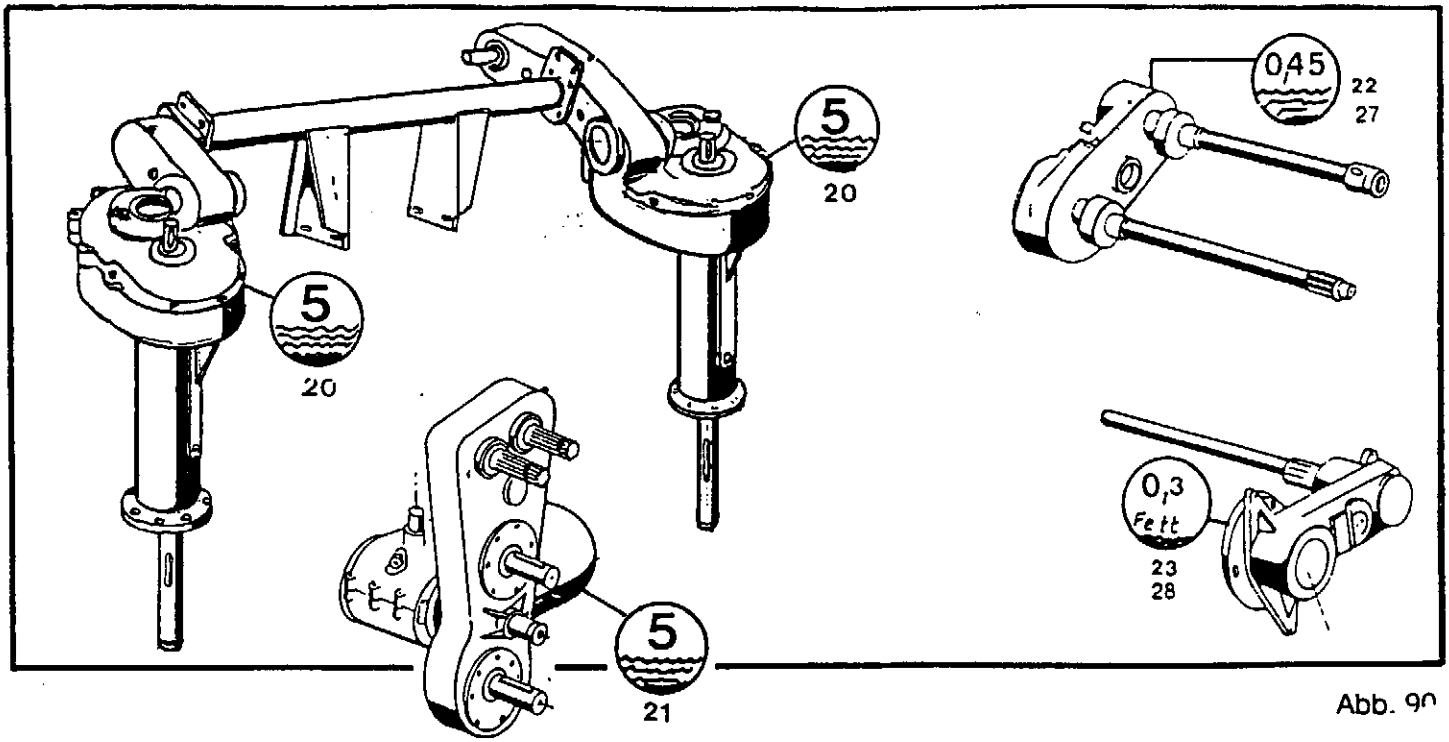
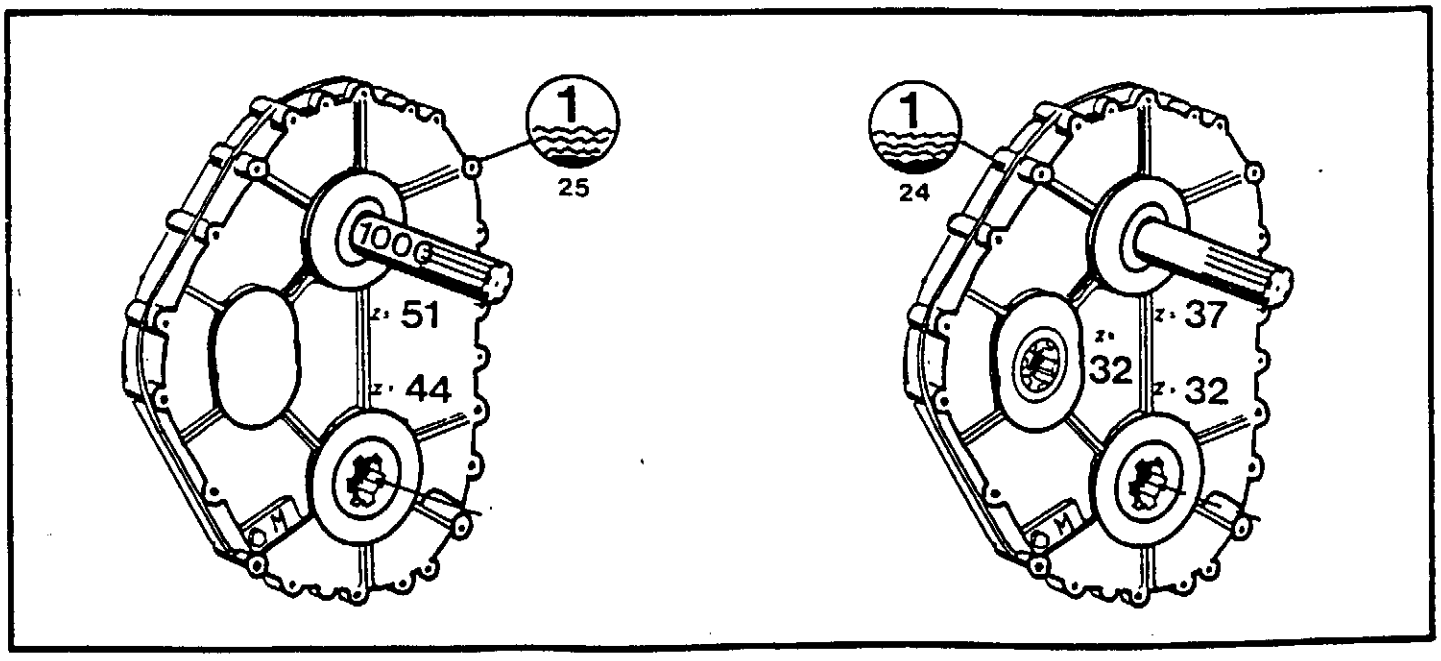
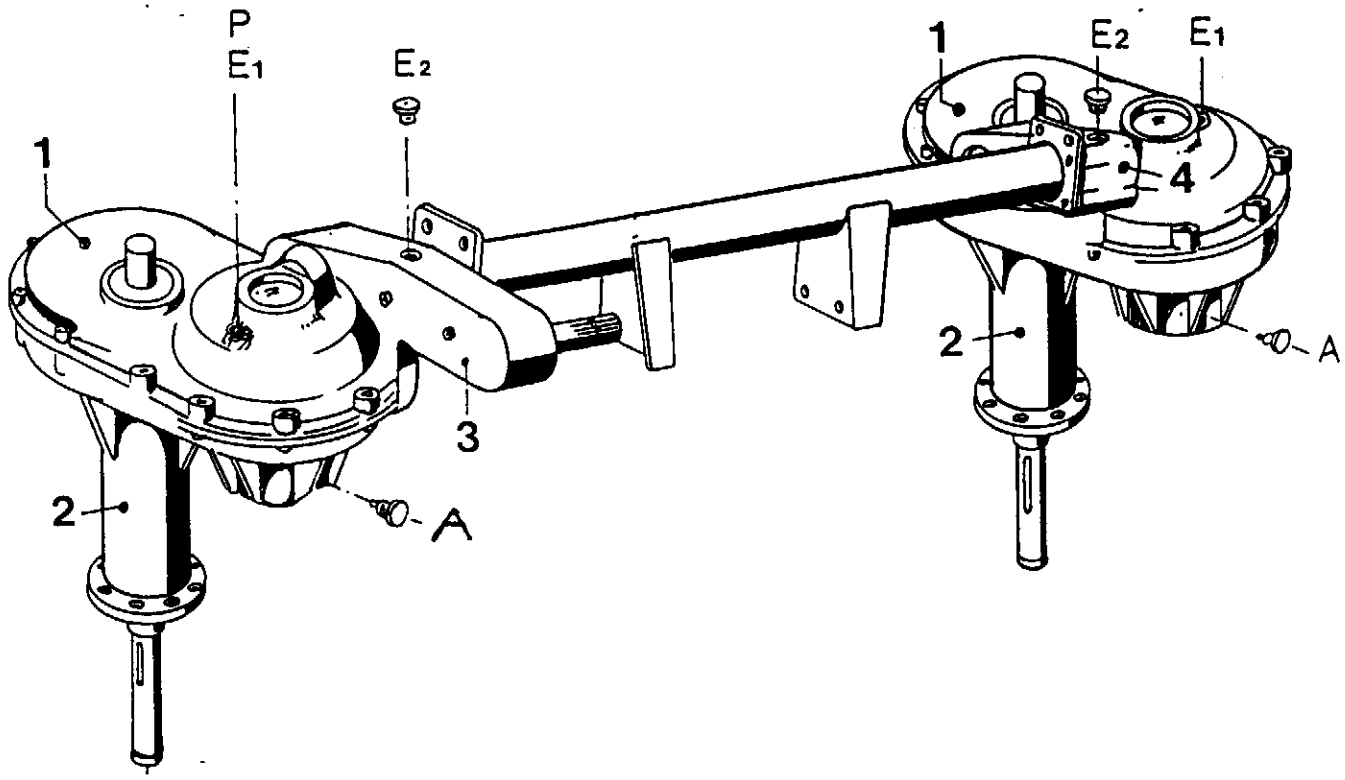



Abb. 90

| | | | |
|---|---|---|---|
| 1. | Chute rotation point - 2 nipples | 20 | Spur gear — Drums |
| 2 | Worm gear | 21 | Transmission gear — Drums |
| 3 | Front flywheel bearing | 22 | Spur gear — Precompression roll |
| 4 | Rear flywheel bearing | 23 | Spur gear — Feed roll |
| 5 | Torpedo dividers - Rotation point | 24 | Transmission gear — 3 gears |
| 6 | Hinged part of ejector double flap | 25 | Reverse gear — 2 gears |
| 7 | Drive PTO | 26 | Spur gear — Pick-up |
| 8 | PTO for gathering drums | | |
| 9 | PTO for feed rolls | | **For detector:** |
| 11 | Feed roll bearings - 2 nipples | 27 | Spur gear — Precompression roll |
| 12 | Spindle - thrust capstan | 28 | Spur gear — Feed roll |
| 13 | Flywheel hub and flywheel shaft = 2 x | | |
| 14 | Pick-up bearing - cam-plate | | |
| 15 | Height-adjustable support wheels | | |
| 16 | Roller chains -- worm-gear and pick-up | | |
| 17 | Hinged points on holding-down device | | |

Abb. 96






## Changements on the transmission of the Champion C 2200

As from mach. no. 103-46610 year of construction 1996 an other transmission will be mounted on the Champion 2200.

A Housing 1 will be filled with approx. 4,6 ltr. SAE 90.

B Housing 2 will be filled with approx 0,2 kg with high quality bearing grease

C The transmissions 3 an 4 will become a oilplug on the topside.

During repairs or changing oil please take care on the following:

1 Because of the high forces on the transmission only use high quality transmission oil SAE 90.

2 The bearing grease of housing 2 should be changed after repairs only.

3 When filling up with oil, take care for the following:
- 3.1 On the same side of the transmission the plug E1 and E2 are putted out .
- 3.2 Because of the formation of blowholes and the small entrance from housing 3 to 1, it can take some time when the total amount of oil will be filled up out from E2. A part can be filled up also from E1.
- 3.3 After refilling the transmission with oil it should be preferable to let the machine turn free for a couple of minutes to give the possiblity to spread out the oil equaly into the transmission.
- 3.4 After waiting some time the oillevel can be checked again on plug E1.
- 3.5 The new transmissions are to be recognized by the oil release plug A and the filling plug E2.

# 7. Service and maintenance

An essential criterion for profitable operation of your new Champion is constant servicing and maintenance.

It depends on you whether you incur expensive repairs due to superficial treatment of these points.

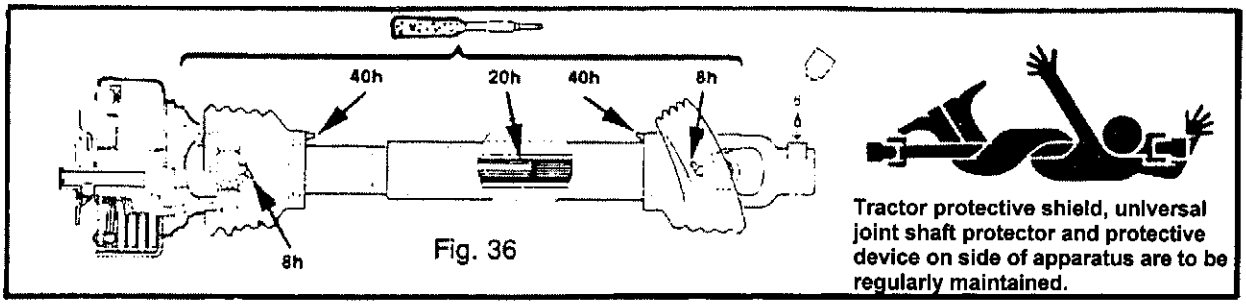



Fig. 36



**Tractor protective shield, universal joint shaft protector and protective device on side of apparatus are to be regularly maintained.**

## 7.1 Daily maintenance

- Sharpen chopping blades several times a day
- Adjust flywheel so that it is centred over shear bar
- Adjust flywheel at least twice daily even if blades have not been ground.
- Check all 12 saw blades under gathering drums, check for blockages due to foreign objects
- Check shear bar
- Lubricate according to chart
- Tighten all bolts and screws

## 7.2 Weekly maintenance

- Tighten all bolts on flywheel
- Check shear bar - reverse if necessary
- To change shear bar: Remove header. Remove the 4 bolts at the bottom of the lead-roll housing and slacken the 2 at the top. Tilt housing upwards to access the shear bar.
- Lubricate according to chart.

## 7.3 Yearly maintenance

- Clean and preserve machine parts.
- Change all gearbox oil. Watch quantities on refill!
- Check all wear parts.
- Order original spares in good time
- Check V-belt
- Check friction couplings on PTO
- Check hydraulic lines and connections
- Check entire housing with lead and precompression rolls

## 7.4 Service and maintenance at beginning of season

- Read Operators Manual again.
- "Run up" and check bearings for overheating, noise, etc.
- Lubricate machine completely.
- Check all bolts for tightness.
- Check saw blades, crop chopper blades and shear bar.

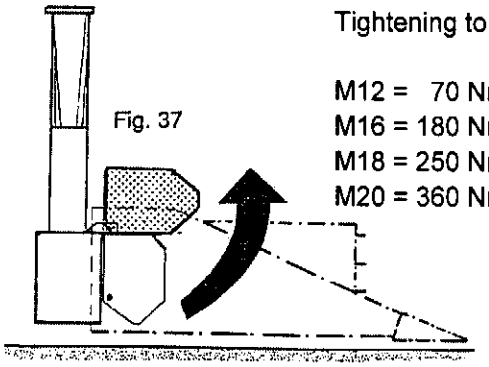
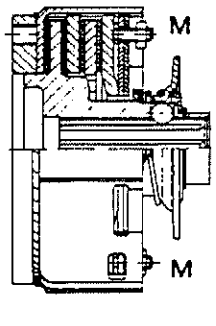


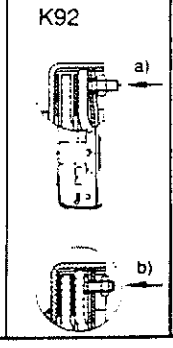
Fig. 37

Tightening torques

M12 = 70 Nm
M16 = 180 Nm
M18 = 250 Nm
M20 = 360 Nm

Abb. 38




| D | GB | F | NL | I |
|---|---|---|---|---|
| Vor Erstemsatz und nach längerer Stillstandszeit Arbeitsweise der Reibkupplung überprüfen | Prior to first utilisation and after long periods out of use check working of disc clutch | Avant la première utilisation et après un arrêt de fonctionnement prolongé, vérifier le fonctionnement du limiteur à friction | Bij de eerste maal in gebruikname en na langere tijd buiten gebruik te zijn, de platenslipkoppeling op goede werking kontroleren | Prima dell'impiego e dopo prolungata inattività controllare il funzionamento del limitatore di coppia. |
| a) Muttern anziehen wodurch Reibscheiben entlastet werden Kupplung durchdrehen | a) Tighten nuts until friction discs are released Rotate clutch fully | a) Serrer les ecrous sous lesquels les disques à friction sont délestés Tourner le limiteur | a) Moeren aanhalen, daardoor komen de koppelingsplaten vrij. Koppeling doordraaien | a) Stringere i dadi in modo da sbloccare i dischi ferrodi. Far girare il limitatore di coppia a vuoto. |
| b) Muttern bis Gewindeauslauf zurückdrehen | b) Turn nuts fully back | b) Desserrer les ecrous jusqu'à l'extremite du filetage. | b) Moeren terugdraaien tot einde schroefdraad. | b) Allentare i dadi fino all'estremita del filetto |
| Kupplung ist wieder einsatzbereit | Clutch is ready for use | Le limiteur à friction est prêt à fonctionner | Koppeling is weer gebruiksklaar | Il limitatore è nuovamente reinserito. |

# 7.5 CHECKLIST FOR SAFE USE OF THE CHAMPION

Smooth operation can only be achieved with a technically perfect machine that is properly maintained every day. Follow separate instructions for detector version.

1. **Check torpedo dividers**
   Torpedo dividers must be height-adjustable and the outer dividers must turn easily.

2. **Gathering drums**
   Bearings and fixings to be checked on large gathering drums.

3. **Saw blade rotor**
   Check saw blades and cleaner for condition, sharpness and adjustment. To avoid imbalance: only change in opposite pairs.

4. **Pick-up**
   Check the pick-up drum for any broken tines and bent prongs. Check curved path for alignment. If worn, this must be replaced to ensure good tine control.

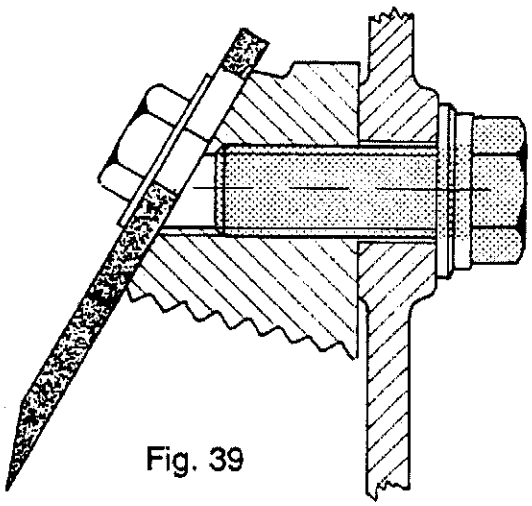


Fig. 39

**Important:** Screw M20 x 50 must not press against chopper blade.

5. **Check intake units**
   Check state of precompression rolls, feed rolls and bearings. Important note: adjustment of stripping plate to last smooth roll - this must always be close to the roll but should not hinder rotation.

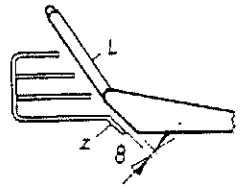
6. **Check shear bar**
   Every machine operator must bear in mind that a crop chopper is designed to achieve high-performance techniques. The chopper components need maximum power and must therefore always be in prime condition. Shear bars should therefore be checked daily.

7. **Flywheel**
   Clean screw-fixing surfaces on the crop chopper and firm screw seatings taking into account the specified torque values are prerequisites for safe operation. Good chopping quality and low power consumption can only be achieved with properly ground blades in top condition. The striker plates under the blades are to be checked for wear, adjustment and soiling. Adjust blades to centre.

8. **Smooth plate / Cracker plate**
   These two plates must be in good condition.

9. **Hydraulics**
   Check whether all hoses, couplings and connections are in order.

10. **Electrics**
    In addition to the general system functions, the servomotor for reverse gear and the limit switch should be checked, as fast changeover of the entire intake unit in the event of a blockage is dependent on this function.




**Maintenance of gathering drum runner and dividers**
Foreign objects can cause damage or deformation to the cutting zone. This area should therefore be checked regularly. Bent tines ("Z") should be corrected, see Fig. 46.

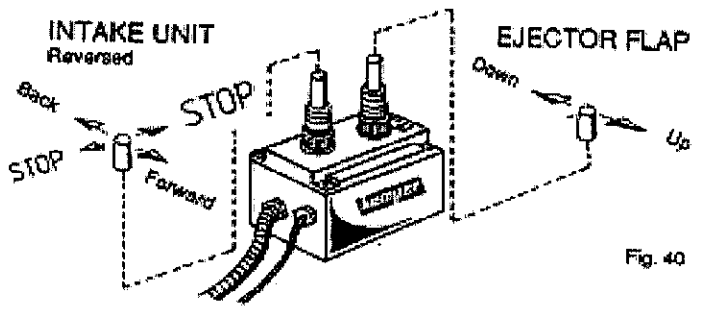



Fig. 40

# 8. Troubleshooting

| | Problem | Cause | Remedy |
|---|---|---|---|
| 1. | Increased power consumption | a) saw blades blunt<br>b) defective cleaner<br>c) shear bar blunt | a) sharpen<br>b) fit new parts<br>c) renew blade |
| 2. | Header difficult to drive or bad intake at the intake drums | a) leaves underneath the intake drum<br>b) dirt within drum section<br>c) dirt within saw rotor<br>d) defective cleaner | a) check several times daily<br>b) clean drum daily<br>c) clean sawing rotor daily<br>d) renew cleaner N° 55204 always 2 for correct balance |
| 3. | Vibration of machine | a) saw rotor speed too high?<br>b) saw rotor damaged?<br>c) cleaner torn off ?<br>d) leaves, weeds and dirt causing imbalance | a) see Table Fig. 8<br>b) see N. 2 |
| 4. | Leaves collected in rear of intake canal and in area of scrapers see Fig. 54 | Prongs 2 or 3 are not removing the leaves as they are not close enough web 4 or 5 in between the scrapers, see Fig. 55 and 56. | a) It may be sufficient to lower the prongs of the intake drums 2 and 3<br>b)These prongs should be positioned as close as possible to the web 4<br>c) 80th prong tips may have to be extended by welding<br>d) Let machine run backwards once |

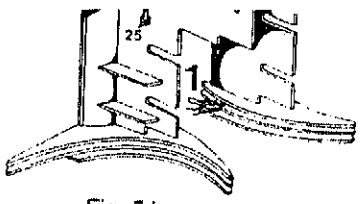


Fig. 54

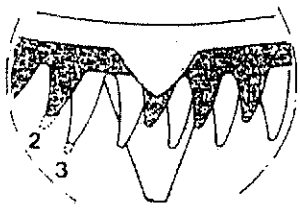


Fig. 55

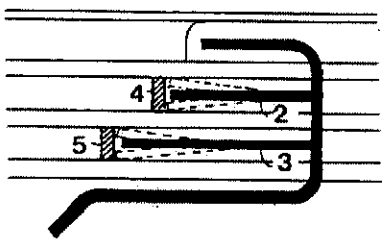
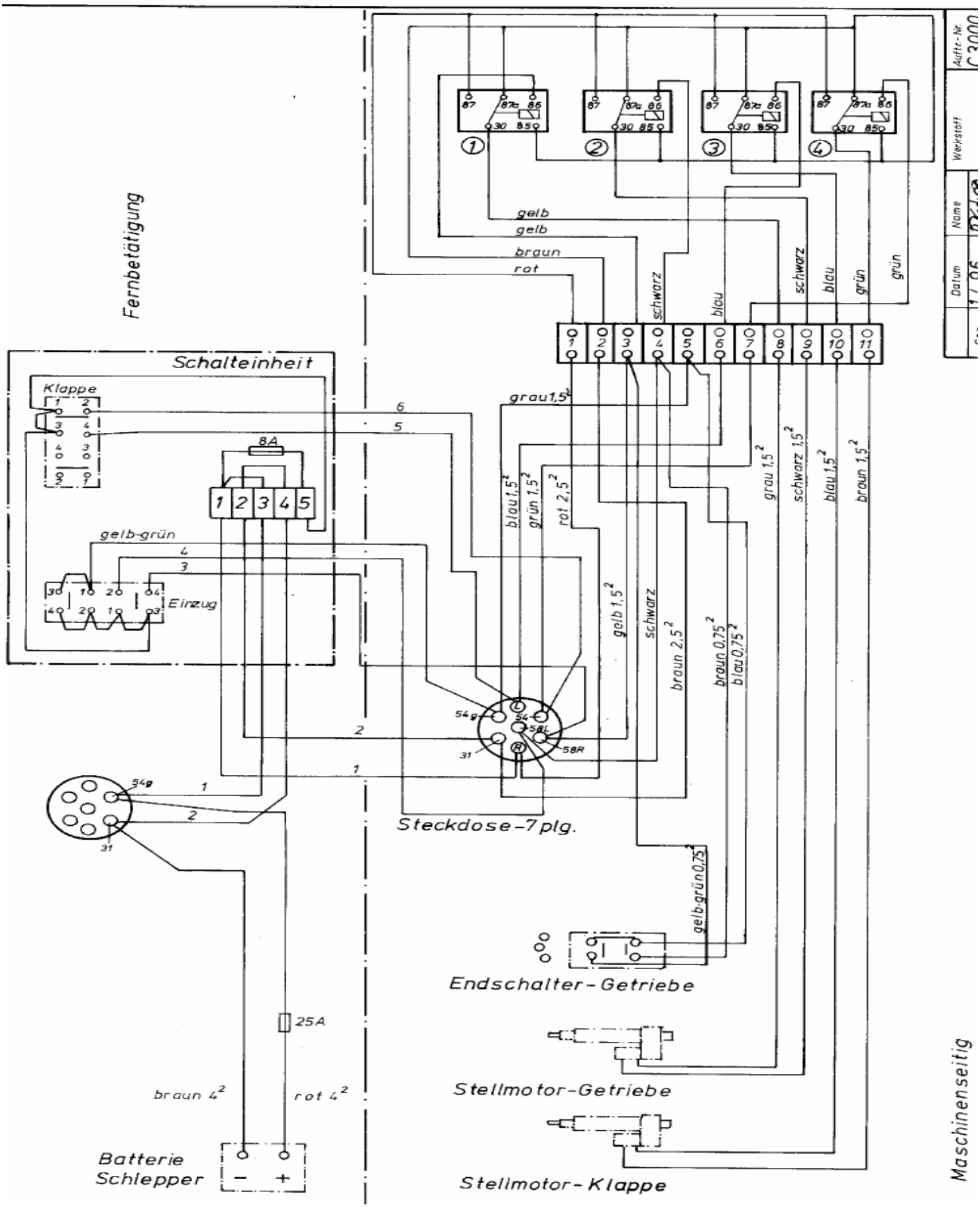


Abb. 56

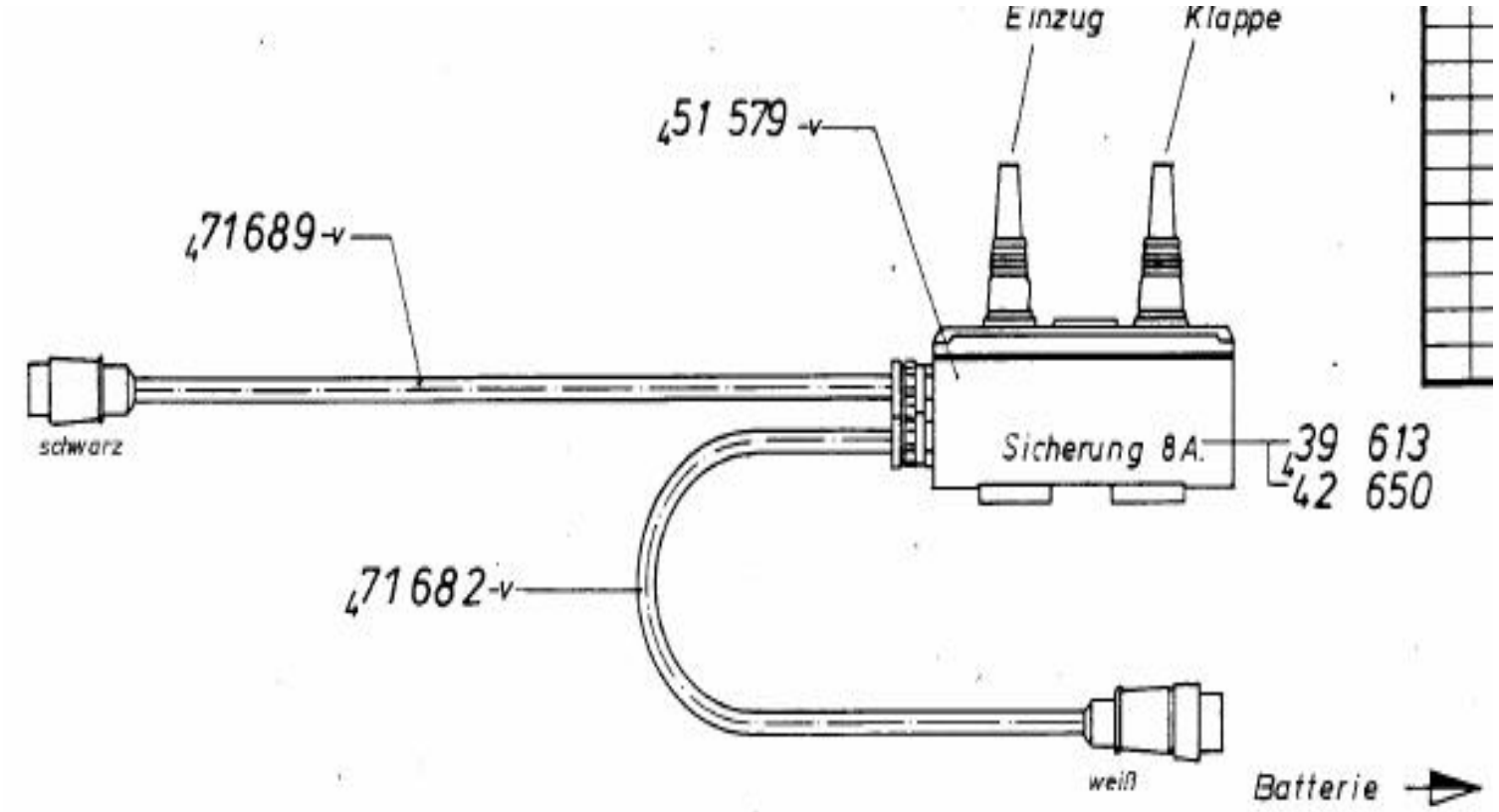
| | | | |
|---|---|---|---|
| 5. | Maize stems bent forwards before being cut off (long stubble) | a) small dividers filled with leaves or stems<br>b) cleaners underneath the saw torn off | a) clean fingers<br>b) renew cleaners |
| 6. | Gathering drum stops | Foreign objects causing blockage | Switch into reversing gear<br>Remove foreign objects |
| 7. | Stems poorly cut | a) cutting blades blunt or warn out<br>b) wrong intake speed<br>c) driving speed too high | Change blades |
| 8. | Poor chopping quality | distance between chopping blade and counter blade too large | sharpen blades - adjust centrally |
| 9. | Gathering drum and saw blade will not drive | a) Friction clutch defect<br>b) friction clutch has not been checked for free run before start | friction clutch must be freed off if this is not done - warranty is void. |
| 10. | Defective PTO | a) bad maintenance<br>b) friction clutch not checked before starting | a) do maintenance work according to manual<br>b) friction clutch to be freed off / released according to page 22 of the manual |
| 11. | Gears overheating | a) oil level too low<br>b) wrong oil<br>c) defective radial seal | a) check oil level<br>b) see chapter on lubrication<br>c) check for detective seals |

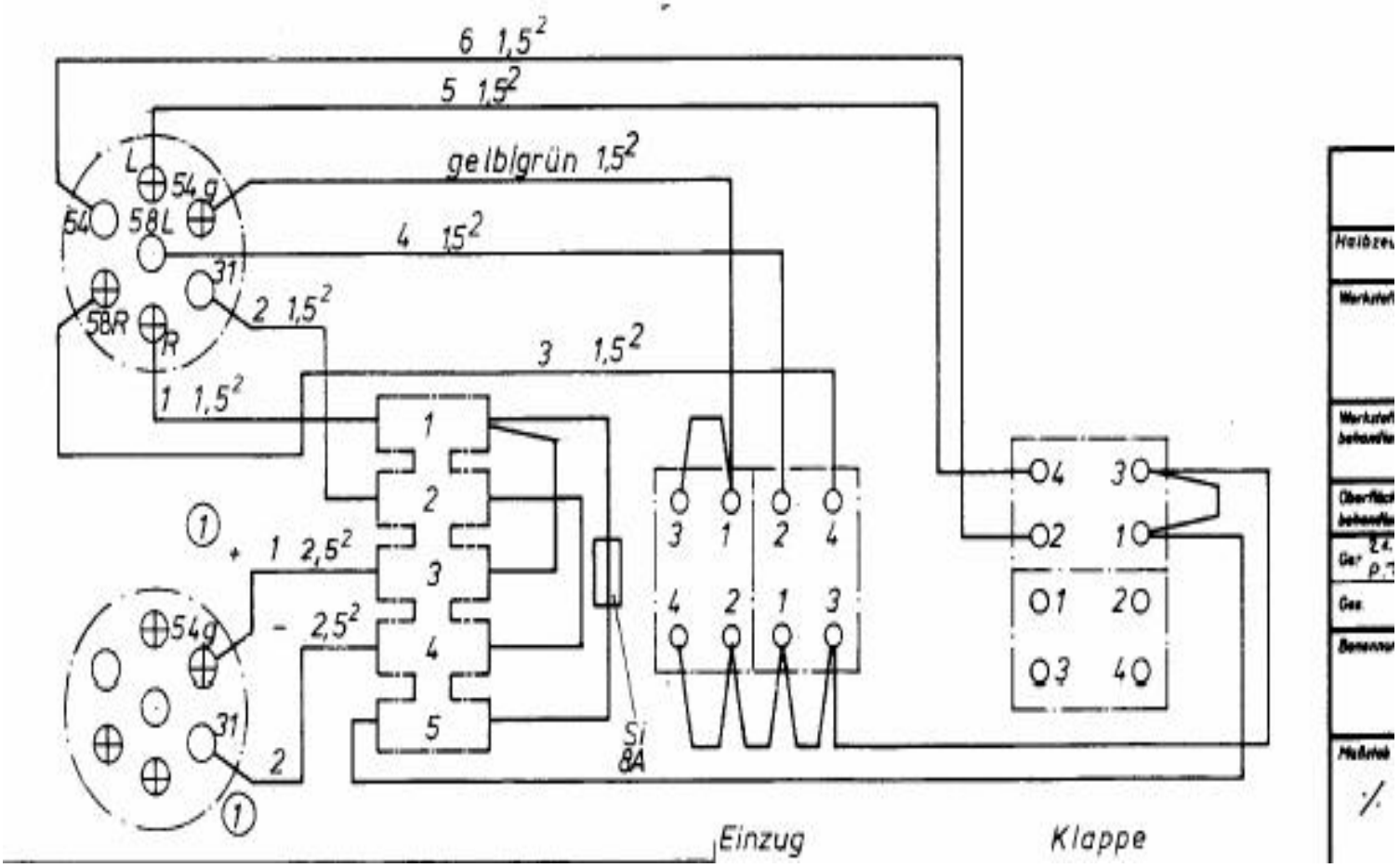
| | Problem | Cause | Remedy |
|---|---|---|---|
| **12.** | Corn not cut correctly<br>Stem pieces in chopped crop | Distance too great between chopping blade and shear bar<br>Revolution count too low | Centrally adjust blade wheel<br>Increase rpm and maintain a minimum of 1160 rpm constantly |
| **13.** | Header too low | skids adjusted too high | Re-adjust skid |
| **14.** | Sharpening device vibrates | rpm of blade wheel too high<br>Pressure of sharpening unit too great | decrease rpm and pressure |
| **15.** | reversing gear motor not working | Voltage too low | Check that 4-quad<br>Cable is directly connected to battery<br>See point 3.16 C. |

## 9.1 Circurit – Diagram C2200

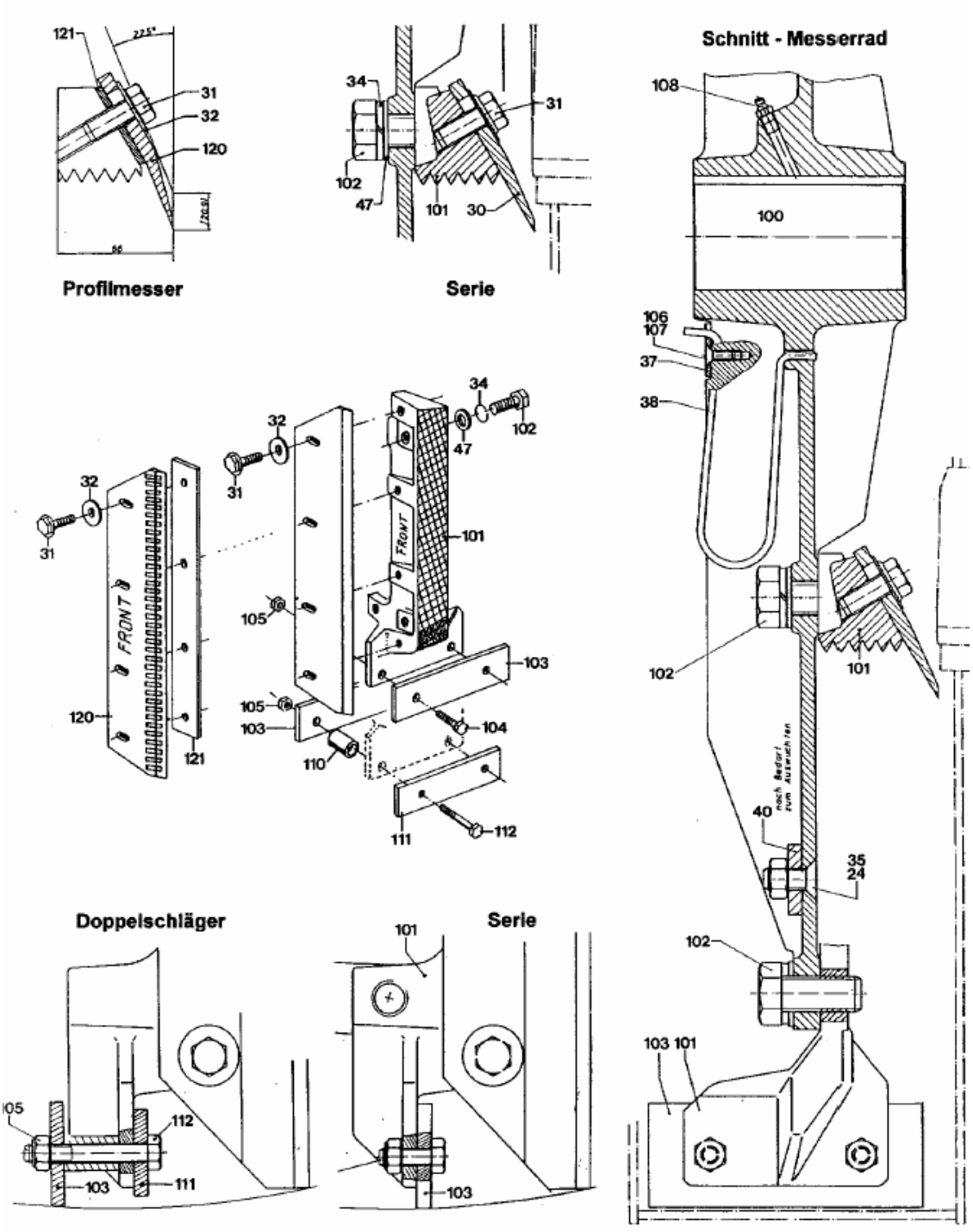


## 9.2 Circuit diagram - Remote control C2200



# flywheel C2200



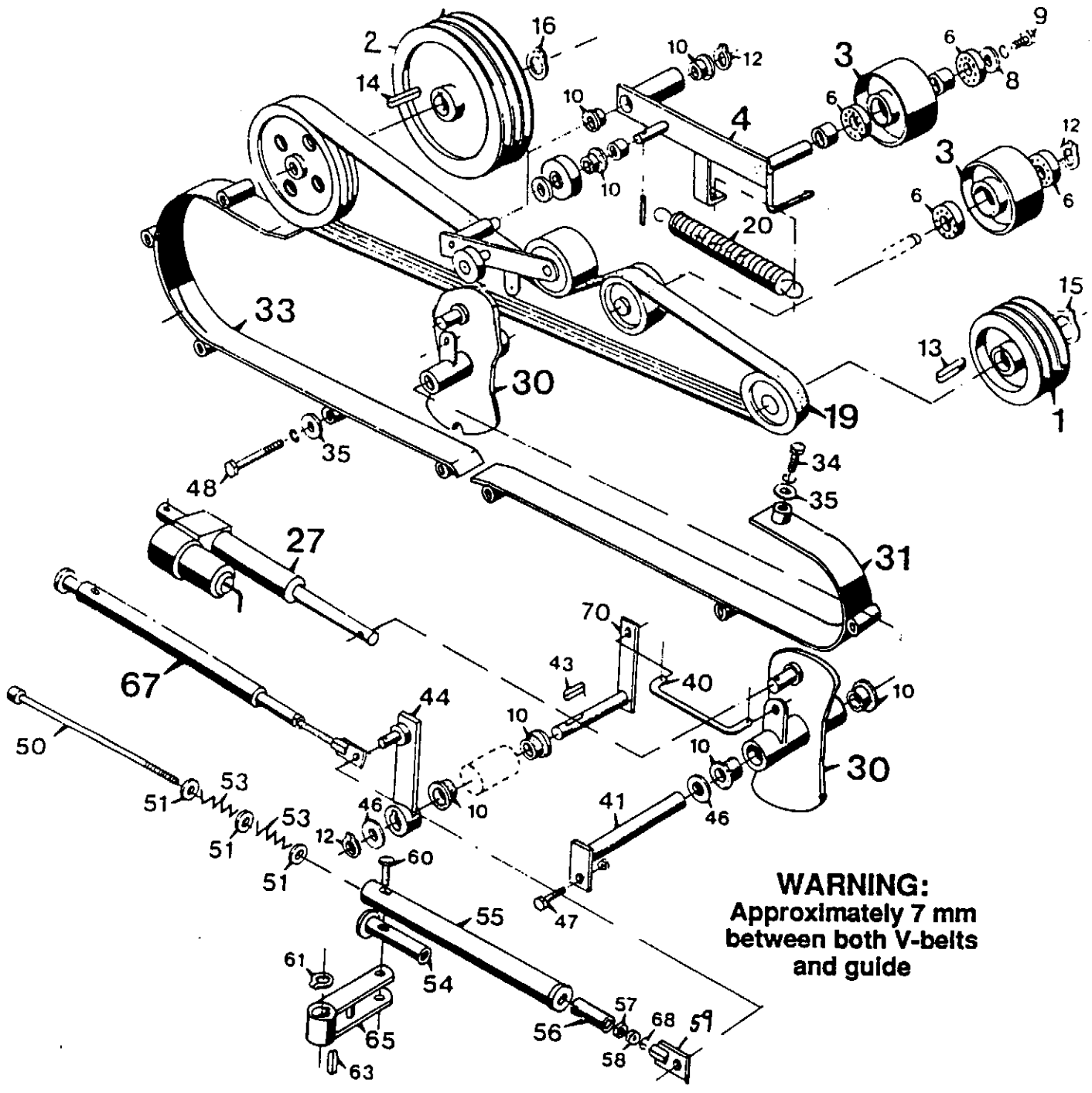
# flywheel C2200

| | Bild Nr. | Ersatzteil Nr. | Benennung | | | Stückz pr.Gr. | Bemerkung |
|---|---|---|---|---|---|---|---|
| | | | Ab Masch.-Nr. 96-46418 (Jan. 96) | | | | |
| | 100 | 65050 | Messerrad kpl. | HECK | | 1 | |
| | | 65051 | Messerrad kpl. | FRONT | | 1 | |
| ♦ | 101 | 61495 | Messerhalter | HECK mit Wurfsch. | | 12 | paarw. austauschbar |
| ♦ | | 61496 | Messerhalter | FRONT mit Wurfsch. | | 12 | paarw. austauschbar |
| | 102 | 60940 | 6-kt-Schraube | 20x45 | D933-v | 36 | M = 360Nm |
| ♦ | 103 | 61494 | Wurfplatte | 60x8x155 | | 12 | |
| | 104 | 04219 | 6-kt-Schraube | 10x30 | D933-v | 24 | |
| | 105 | 04615 | 6kt.-Mutter | 10 | D985-v | 24 | |
| | 106 | 40402 | Fächerscheibe | V6,4 | D6798 | 1 | |
| | 107 | 14151 | Senkschraube | 6x16 | D7991 | 1 | |
| | 108 | 45047 | Schmiernippel | A8 | D71412 | 2 | |
| | | | Teile für „Doppelschläger" | | | | |
| | 110 | 65398 | Buchse | | | 24 | Sonderausr. |
| ♦ | 111 | 65399 | Wurfplatte | 50x8x155 | | 12 | Sonderausr. |
| | 112 | 35519 | 6-kt-Schraube | 10x70 | D931-v | 24 | Sonderausr. |
| | | | Profilierte Spezial-Häckselmesser für die Nachzerkleinerung | | | | |
| | 120 | 70759 | Häckselmesser | HECK | | 12 | |
| | | 68055 | Häckselmesser | FRONT | | 12 | |
| | 121 | 68054 | Messerunterlage | 50x4x340 | | 12 | |
| | | | Einbauzeichnung HECK = 70760<br>Einbauzeichnung FRONT = 68056 | | | | |

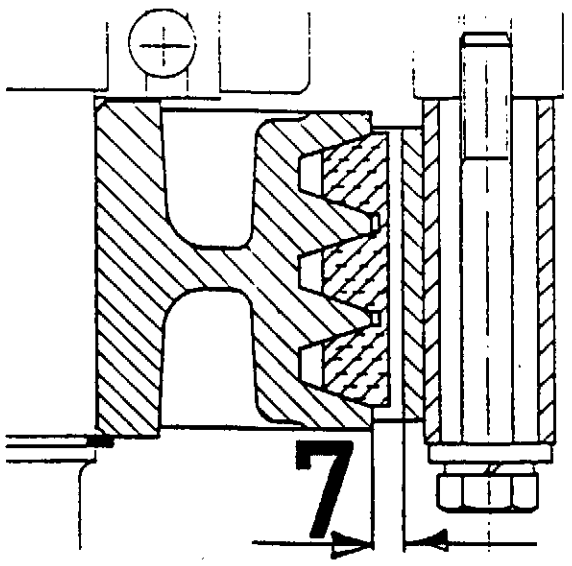
## Alignment of the flywheel

The flywheel is completely aligned at the factory. For this reason use only genuine Parts. Blades. blade holders & rocker paddles can only be changed as pairs.

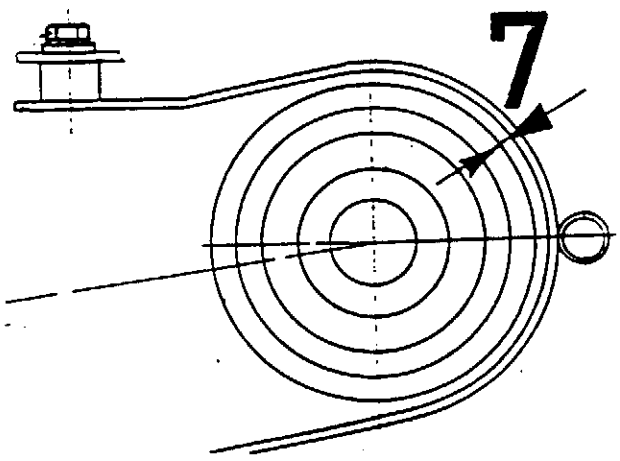
The maxirnum allowable weight difference is 20 grams.

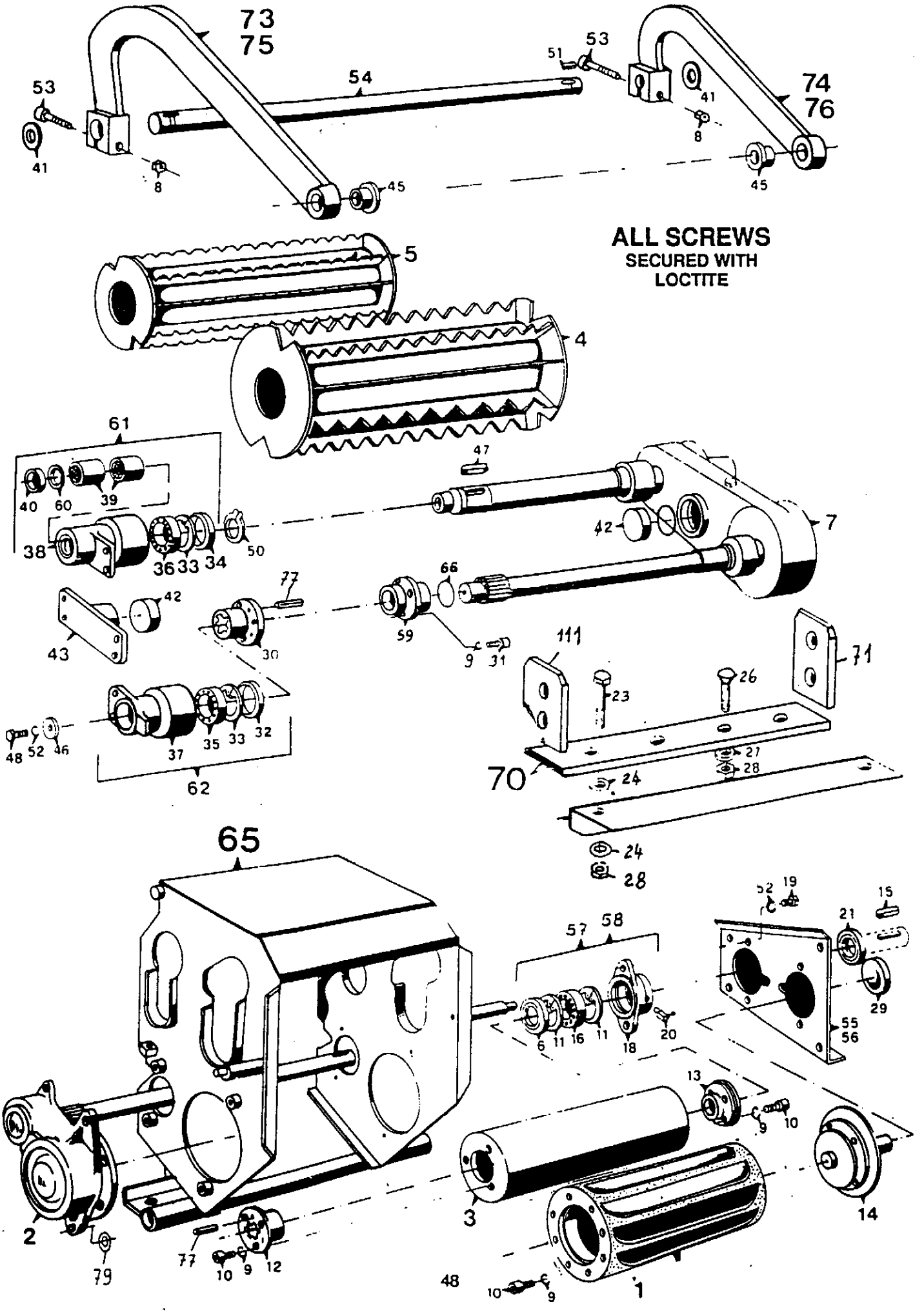



**WARNING:**
**Approximately 7 mm between both V-belts and guide**




**In tensioned state, V-belts should not touch guide.**

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45
ALL SCREWS
SECURED WITH
LOCTITE
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1

# SCHEMATIC DIAGRAM

## ASSEMBLY AID
## SHOWING CHAMPION - REAR

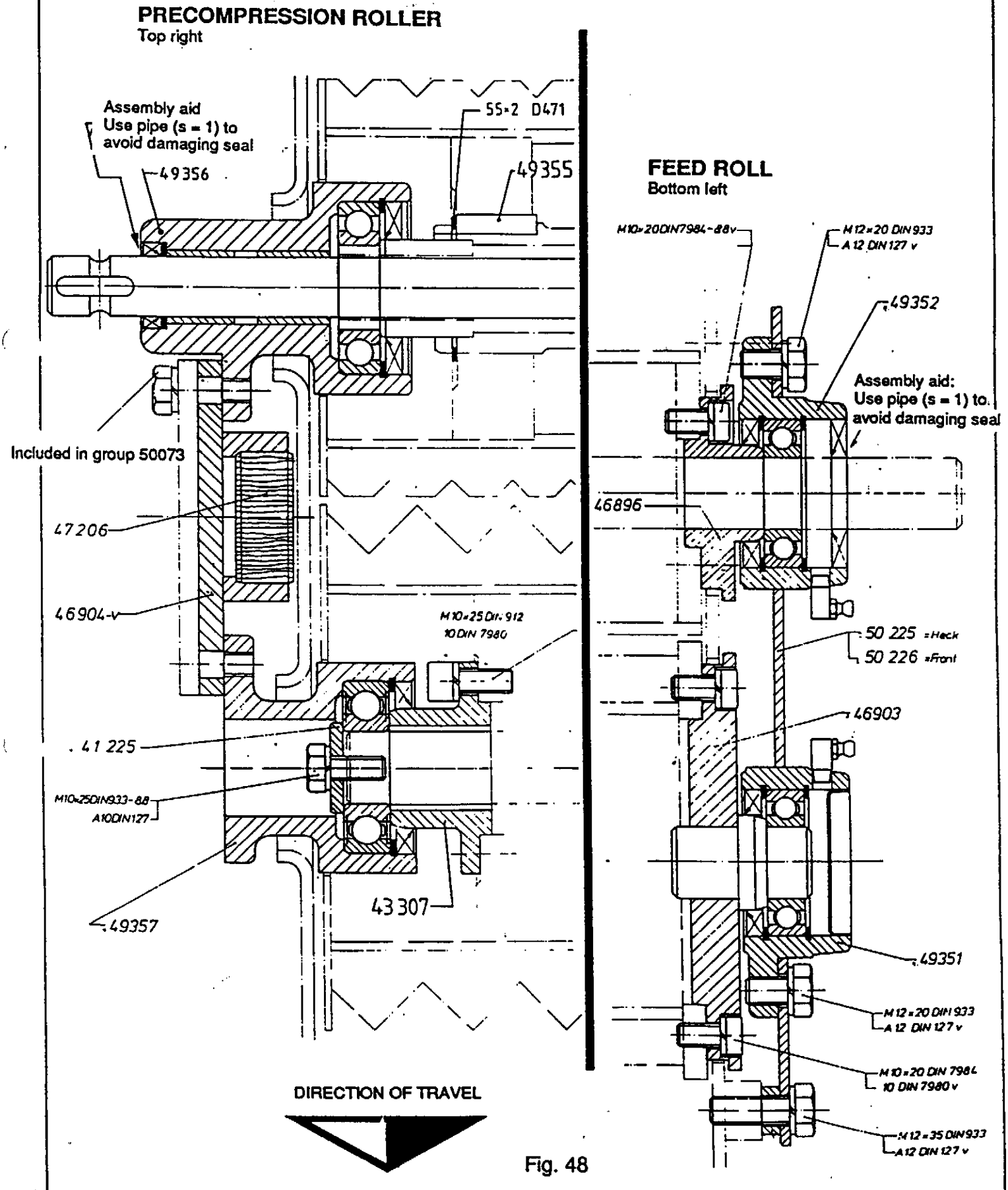
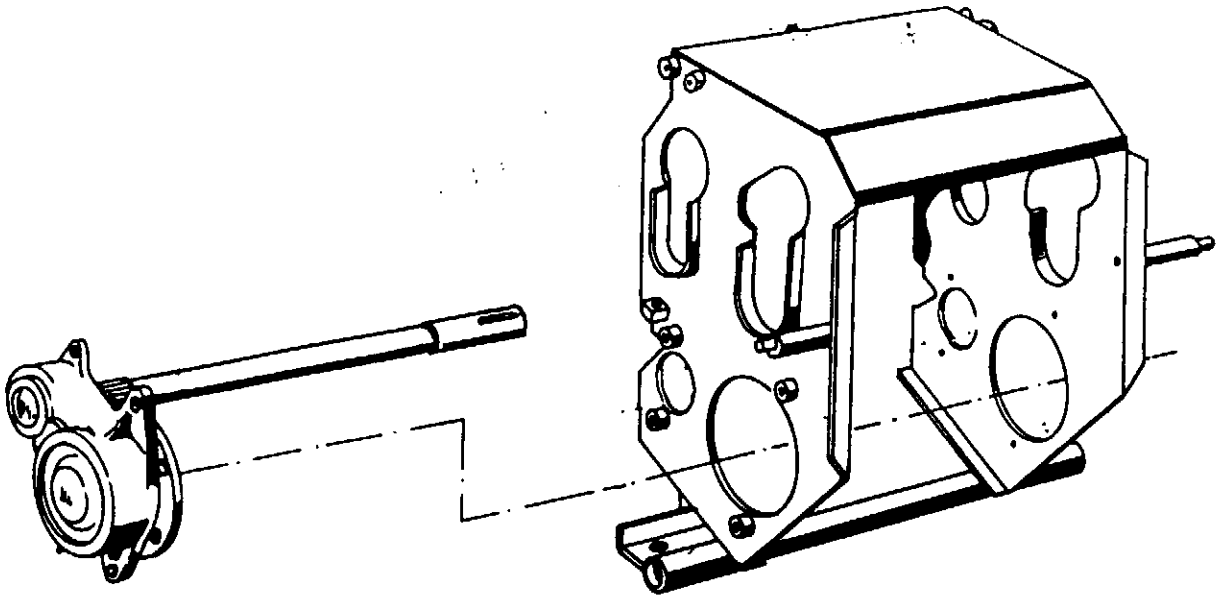
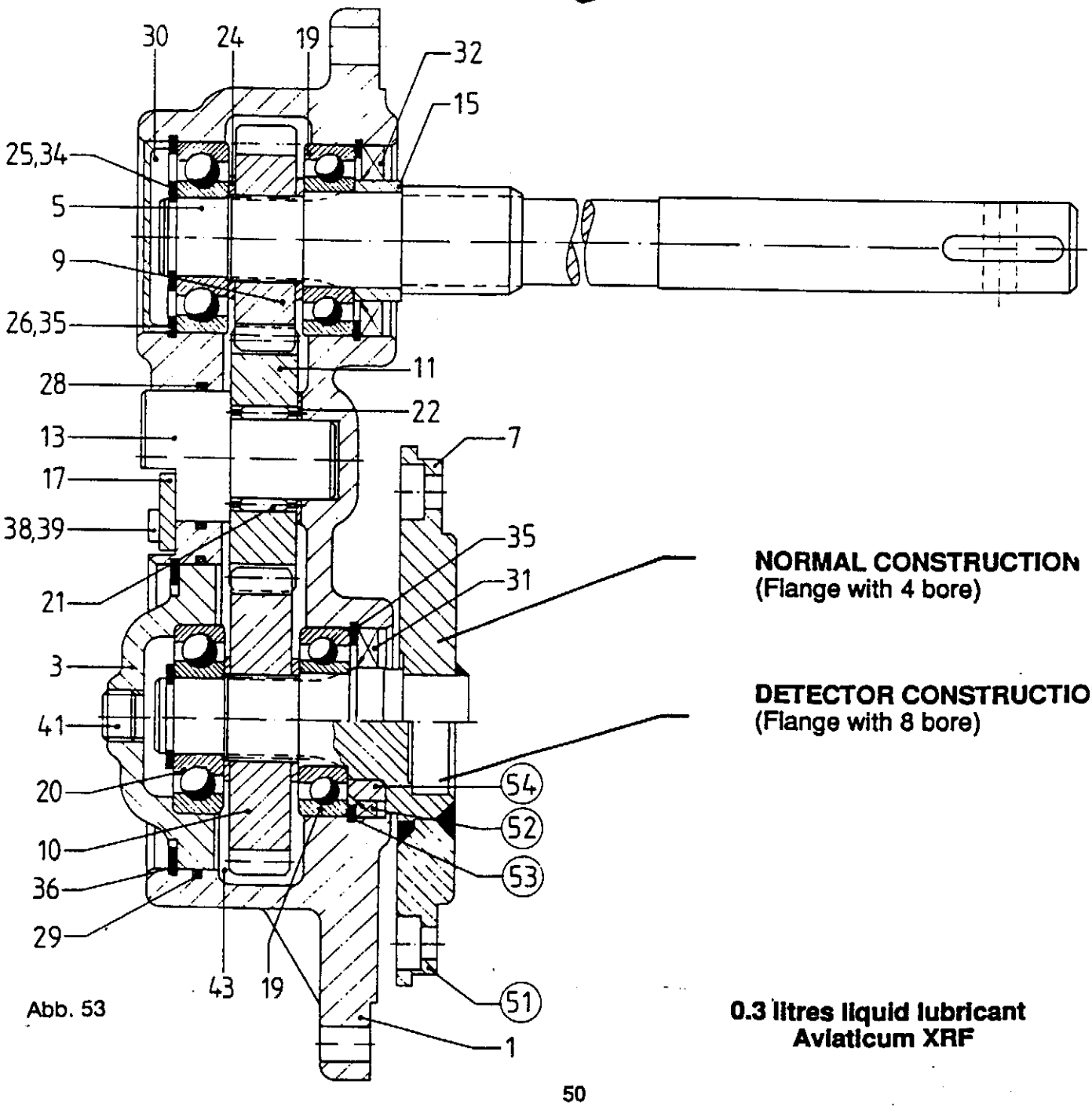



Fig. 48



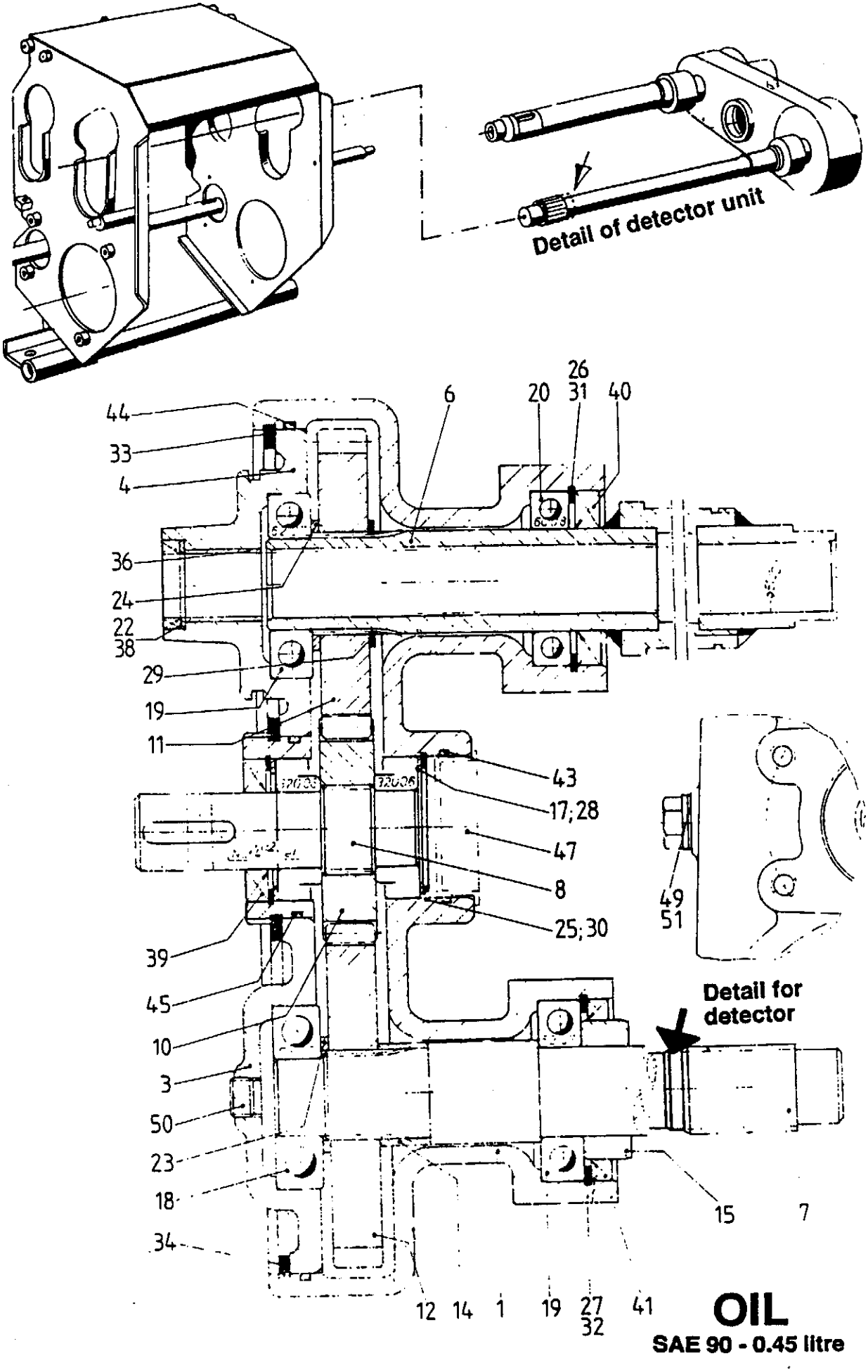


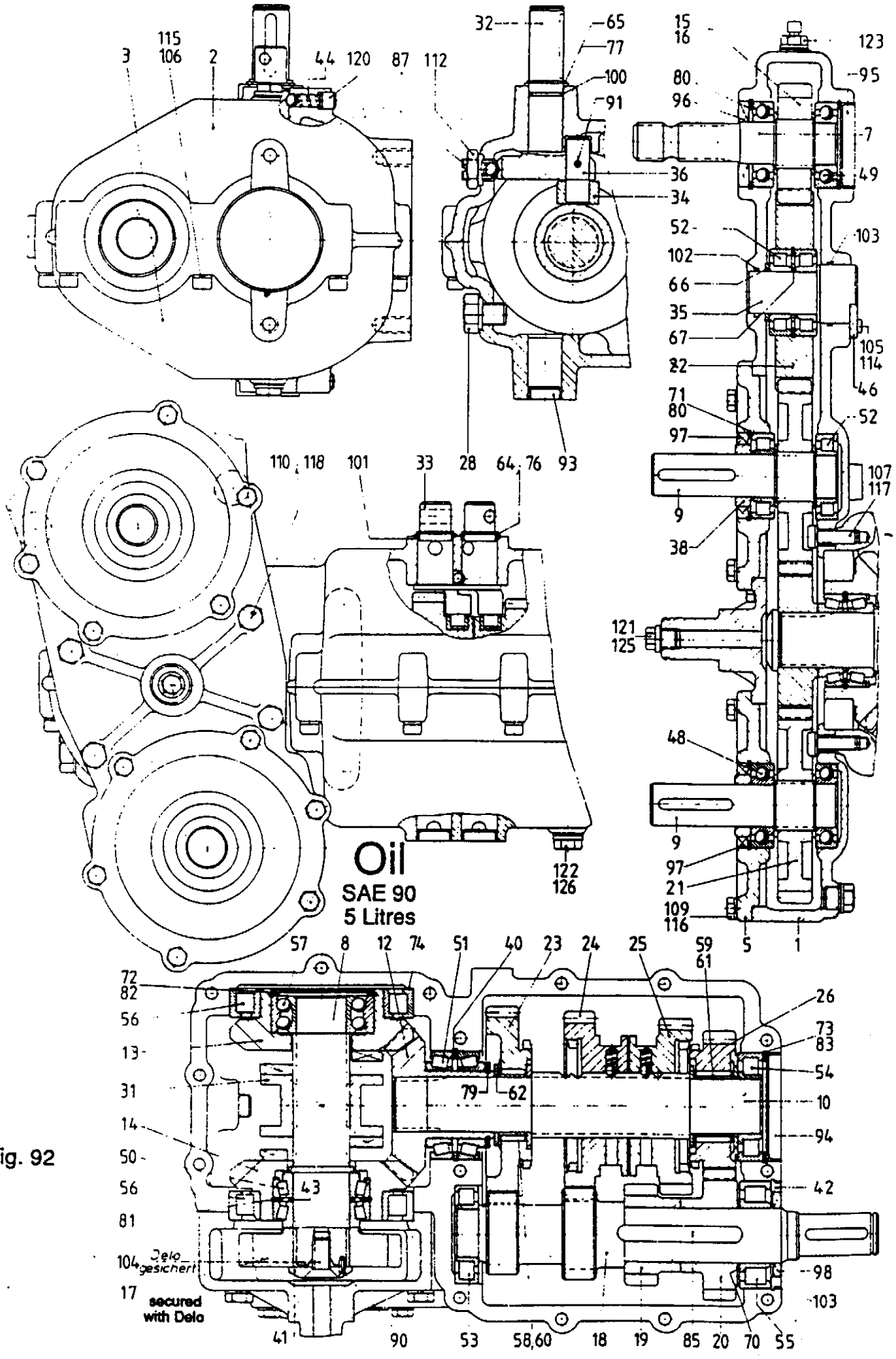

**NORMAL CONSTRUCTION**
(Flange with 4 bore)

**DETECTOR CONSTRUCTION**
(Flange with 8 bore)

Abb. 53

**0.3 litres liquid lubricant**
**Aviaticum XRF**


Detail of detector unit
26
6
20
31
40
44
33
4
36
24
22
38
29
19
11
43
17;28
47
8
25;30
39
45
10
3
50
23
18
34
49
51
Detail for detector
15
7
12
14
1
19
27
32
41
OIL
SAE 90 - 0.45 litre


3
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106
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120
87
112
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65
77
100
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123
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49
52
103
102
66
35
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22
105
114
46
71
80
97
52
110
118
101
33
28
64
76
93
107
117
9
38
121
125
48
9
97
21
109
116
Oil
SAE 90
5 Litres
122
126
57
8
12
74
51
40
23
24
25
59
61
5
1
72
82
56
13
31
14
50
56
81
104
17
Delo gesichert
secured with Dela
79
62
26
73
83
54
10
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103
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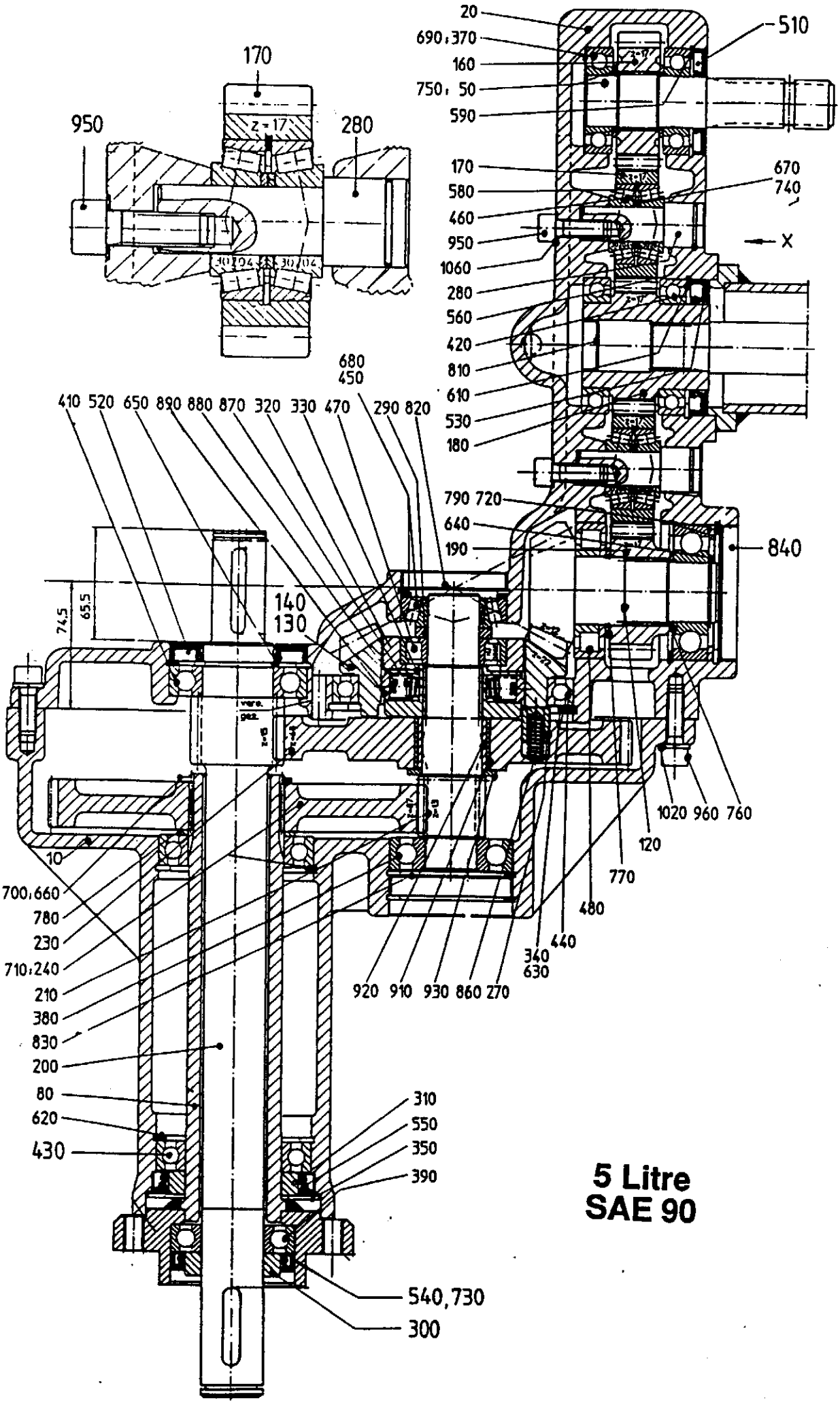
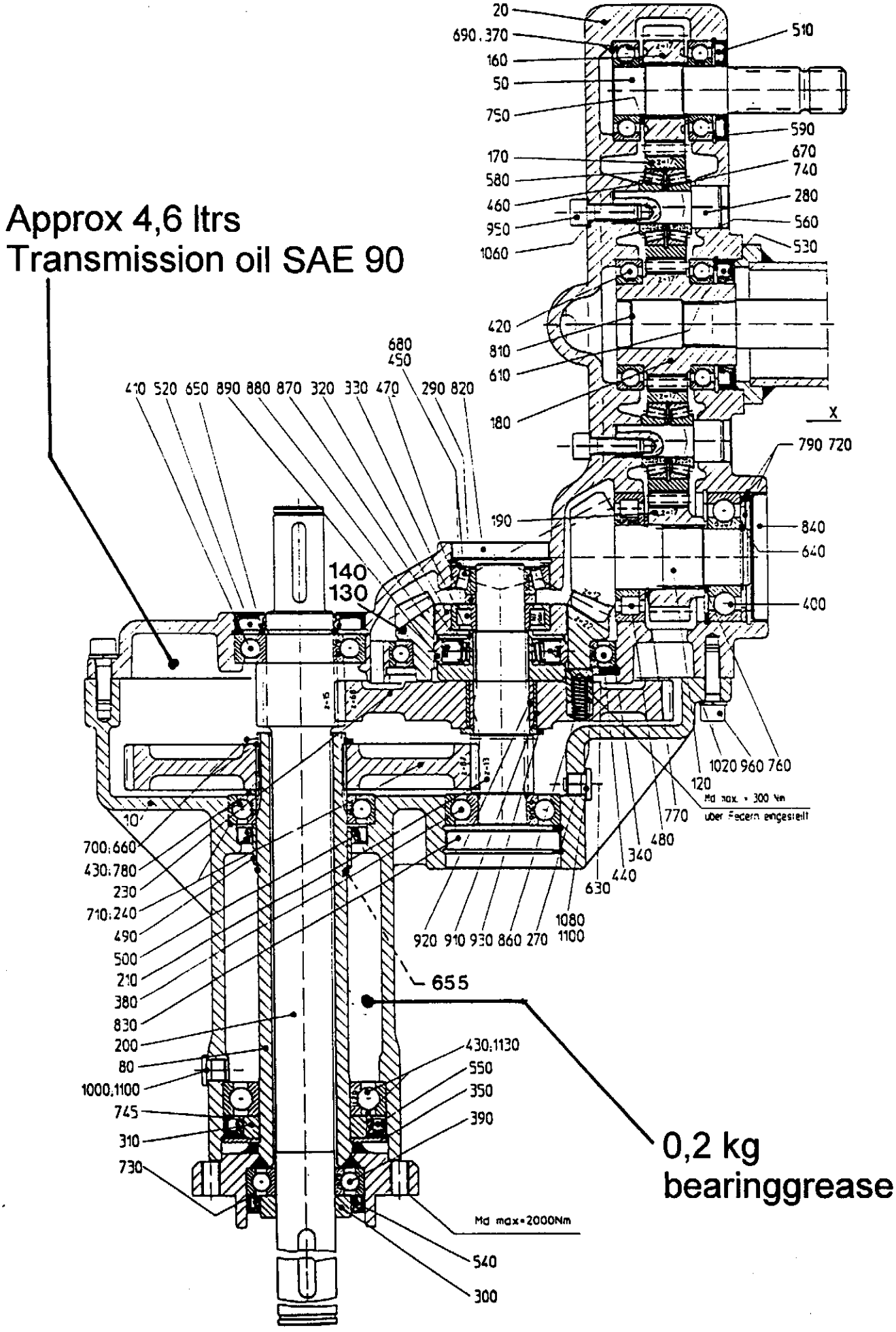
Fig. 92

# GATHERING DRUM BEVEL GEAR

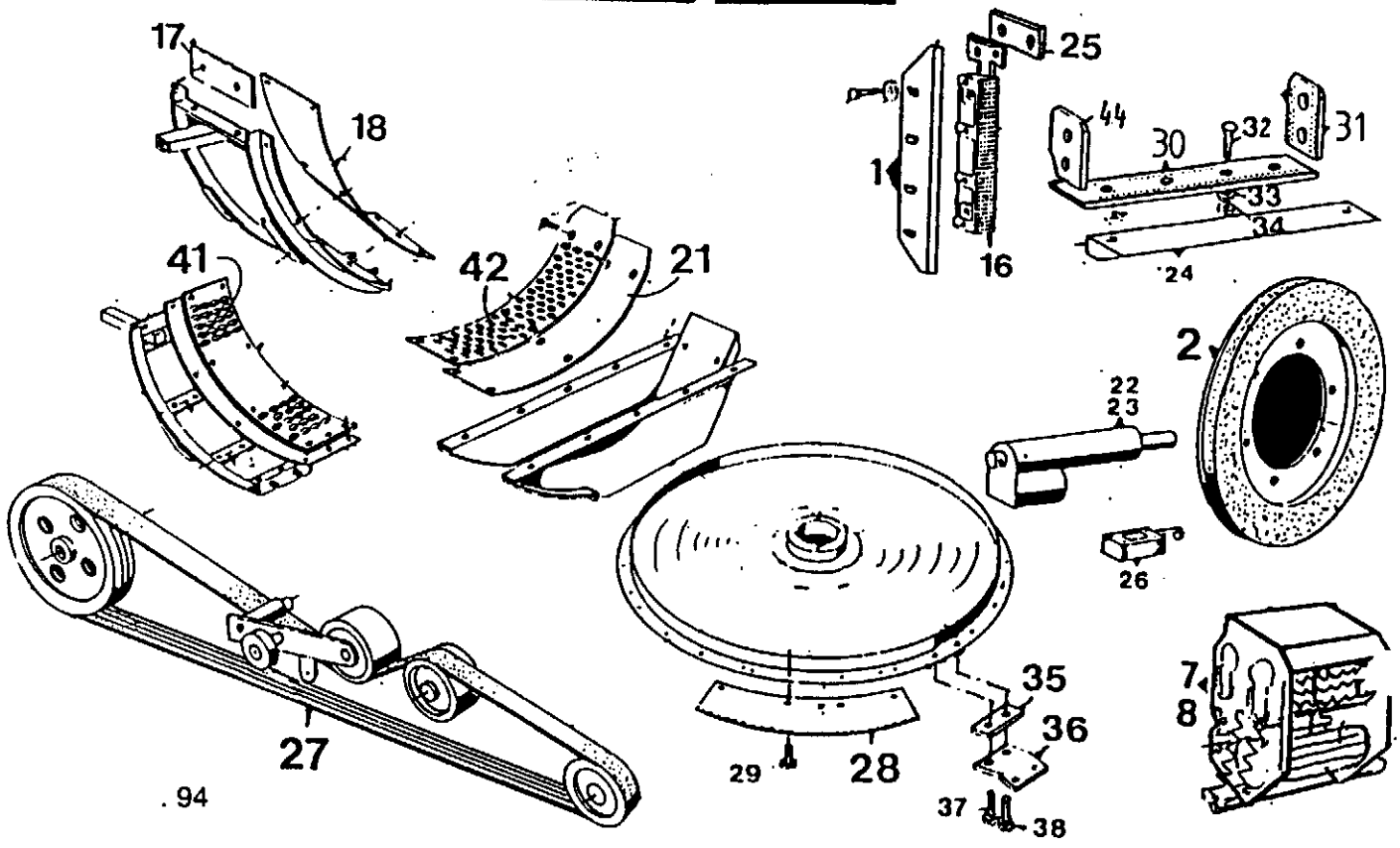
Sheet No. 103-1342 BL3
Edition: 9002




**5 Litre**
**SAE 90**


Approx 4,6 ltrs
Transmission oil SAE 90
20
690.370
160
50
750
170
580
460
950
1060
420
810
610
180
680
450
410 520 650 890 880 870 320 330 470 290 820
190
140
130
10'
700.660
430.780
230
710.240
490
500
210
380
830
200
80
1000.1100
745
310
730
655
430.1130
550
350
390
540
300
Md max=2000Nm
510
590
670
740
280
560
530
X
790 720
840
640
400
1020 960 760
120
Md max. = 300 Nm
über Federn eingestellt
770
480
340
440
630
920 910 930 860 270
1080
1100
0,2 kg
bearinggrease

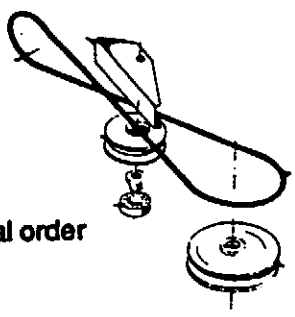
# Original Kemper SPARE PARTS




CHAMPION **2200** Baujahr 89

Nr.: 103 – 1283
: 8908

| FIG Nr. | PART Nr. | DES. | | N' off | REMARKS |
|---|---|---|---|---|---|
| ◆ 1 | 53887 | Crop chopper | 367x96x8 | 12 | |
| ◆ 2 | 54025 | Grinding disc | | 1 | |
| 7 | 58556 | Roll housing | complete | 1 | |
| 8 | 58557 | Roll housing | complete with detector | 1 | |
| ◆ 16 | 54365 | Blade holder | | 1 | |
| 17 | 54241 | Wear plate | | 1 | |
| ◆ 18 | 57975 | Top wear plate | oben | 1 | |
| ◆ 21 | 58156 | Bottom wear plate | unten | 1 | |
| 22 | 53678 | Lifting spindle | Ejector (51466) | 1 | |
| 23 | 53677 | Lifting spindle | Reverse | 1 | |
| | 49798 | Lifting spindle | Reverse (detector) | 1 | |
| ◆ 24 | 57640 | Stripper | | 1 | |
| ◆ 25 | 54775 | Ejector plate | 80x6x120 | 12 | |
| 26 | 50126 | Limit switch | | 1 | |
| 27 | 57920 | V-belt | 3HB-2712-26 | 1 | |
| ◆ 28 | 58283 | Saw blade | Ø1088 | 12 | |
| ◆ 29 | 05639 | Hexagon head screw | 8x16D933-V | 40 | |
| ◆ 30 | 57776 | Double shear bar | | 1 | |
| 31 | 50861 | Shear bar | | 1 | |
| ◆ 32 | 50076 | Counter-sunk screw | 12x45 | 6 | |
| 33 | 04206 | Disc | 14D1440 | 6 | |
| 34 | 04696 | Hexagon nut | 12D985 | 6 | |
| ◆ 35 | 55200 | Plate | | 4 | |
| ◆ 36 | 55204 | Cleaner | | 4 | |
| ◆ 37 | 57518 | Hexagon head screw | 8 x 25 special | 4 | |
| ◆ 38 | 57519 | Hexagon head screw | 10 x 30 special | 4 | |
| ◆ 41 | 58146 | Cracker plate | top | 1 | |
| ◆ 42 | 58378 | Cracker plate | bottom | 1 | special order |
| ◆ 43 | 51084 | Wear plate | ejector | 1 | |
| 44 | 58180 | Unit | | 1 | |
| ◆ 45 | 58484 | V-belt | for intake worm gear | 2 | |
| ◆ 46 | 42738 | O-ring | for flywheel bearing | 1 | |
| ◆ 47 | 54361 | O-ring | for flywheel bearing | 2 | |
| ◆ 48 | 54362 | Gear gasket 70 x 90 x 10 BA | | 1 | |

# Production and Goods Range

**MOWING ATTACHMENTS FOR SELF-PROPELLED CHAFF CUTTERS**

**UNIVERSAL CROP PRECISION CHAFF CUTTERS**

**SPECIAL MAIZE CUTTERS**

**LOAD CARRYING/SILAGE WAGGONS**

**BALE CARRYING WAGGONS**

**STABLE MANURE SPREADERS**

## Please quote model and chassis number!

**Model** _____ **Chassis No.** _____

Made in W. Germany

Orders for spare parts may be placed through your dealer, with our factory sales staff or direct with the Kemper Spare Parts Division.

with best wishes from

## Maschinenfabrik KEMPER GmbH & Co. KG