ORIGINAL INSTRUCTIONS - *according to Directive 2006/42/EC, Annex I 1.7.4.1*

OPERATOR'S MANUAL

FCT 1060

Harvester

Part number 81PIGB-187a
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KONGSKILDE

FOREWORD

DEAR CUSTOMER!

We appreciate the trust and confidence you have shown in our company by investing in a KONGSKILDE product, and hope your new machine gives you many years of reliable service. We want you to be completely satisfied with your investment.

This user manual contains information which when followed will ensure that the machine is used correctly and as safely as possible.

When your machine was delivered, your dealer will have gone through the machine's operation, adjustment and maintenance with you.

However, this initial introduction is no substitute for a thorough understanding of the various operations, functions and correct use of the machine.

You should therefore read this user manual thoroughly before using the machine for the first time. Please pay particular attention to the safety references that are given, as well as the section on safety.

The user manual is structured so that comprehensive information is provided in the order in which you will logically need it when you receive your new machine, covering everything from essential operating conditions via operation and use to maintenance and general care. The subdivision of the various sections also follows the procedural sequence, illustrated using sequential diagrams with associated text.

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

All information, diagrams and technical specifications in this user manual describe the most recent conditions at the time of publication.

Kongskilde Industries A/S reserves the right to alter and improve the design and construction of each individual component of the machine without any obligation to implement such changes on machines that have already been delivered.

CONTENTS

1. INTRODUCTION

INTENDED USE

The precision chop forage harvester **FCT 1060 is solely constructed and manufactured for ordinary agricultural use, i.e.**: Ordinary operation in fields where green crops are being cut/collected, e.g. maize, grass or whole crops used for silage production and intended for use as cattle fodder.

The machine should only be coupled to a tractor that both meets the product specifications and can be used lawfully.

Any other use lies outside the intended use. Kongskilde Industries A/S accepts no responsibility for any indirect loss or injury as a result of such use, and the risk shall lie exclusively with the user.

It is assumed that the machine will be used under reasonable conditions, i.e. that the land has been cared for normally and has been adequately cleared of any foreign objects, etc.

"Intended use" also means that the information provided by Kongskilde Industries A/S in the user manual and spare parts catalogue is followed, and that good agricultural practice and technically correct operation is a matter of course.

The precision chop forage harvester FCT 1060 must only be used, maintained and repaired by persons who are familiar with the machine concerned through relevant instruction and reading the user manual, and in particular who have been informed of the hazards associated with use of the machine.

The following text provides a list of general and special safety instructions that must be followed at all times.

Unauthorised modifications to the machine and its construction shall exempt Kongskilde Industries A/S from all forms of liability in the event of resultant damage or injury.

PERFORMANCE

The precision chop forage harvester FCT 1060 offers highly versatile performance, which, when used with the correct equipment, enables grass, maize and whole crops to be chopped. The FCT 1060 may both be used alone or in parallel with other machines.

The FCT 1060 has a high capacity compared with other similar products because of the "DIRECT CUT" system that it uses. "DIRECT CUT" minimises power loss when cutting the material, and thus ensures maximum utilisation of the available tractor power.

However, capacity is difficult to define and compare, as the capacity of one forage harvester will be dependent not only on the type of crop being harvested, but also on the way the crop has been treated prior to being harvested or cut by the machine, in addition to the cutting length used by the machine.

In practice, it is desirable to operate the forage harvester in the highest possible tractor gear without causing frequent blockages. However, the quantity of grass in a field will always vary, for instance where the mower conditioner has had to turn or change forward speed or direction of travel. Therefore, it is often appropriate either to drive with a power reserve so that the machine will not become blocked, or to continuously adapt the driving of the precision chop forage harvester to the conditions.

The pick-up unit and feed rollers are both protected from overloading caused by blockages by means of a friction clutch. The precision chop forage harvester also has a reverse function, which allows blockages to be cleared without you having to leave the tractor seat.

Inexperienced users should start by increasing the speed gradually until the pick-up becomes blocked, before then releasing the blockage by reversing and choosing a tractor gear at a suitably lower level to eliminate the risk of blockage.

However, it is not the intention that the clutch function of the feed rollers be released. The clutch adjustment of the pick-up must be reduced if this happens, The same applies if the main friction clutch between the tractor and the machine releases during normal operation. The adjustment of the machine is incorrect if it is not the pick-up unit that becomes blocked.

The torque adjustment of the friction clutch of the pick-up unit can unfortunately sometimes be increased to the point when the main friction clutch between the machine and the tractor releases frequently. The main friction clutch is not designed to be released frequently, and is only intended to provide a starting shock or when foreign objects enter the machine. The same applies to the friction clutch for the feed intake rollers. The main clutch simply cannot absorb the heat generated during these long releases. The power transmitted at main clutch will be at least 10 times greater than the output required to drive the pick-up unit.

Only the pick-up unit can be seen from the tractor, and it should therefore not be released until a blockage has occurred. The experienced user will be able to adjust the driving of the tractor to the amount of grass and thus use a smaller capacity reserve and, all other factors being equal, a higher output.

The cutting length of the precision chop forage harvester can be adjusted and adapted to the crop concerned. The cutting length is usually reduced when cutting maize and whole crops to ensure greater damage to the grains. Shorter cutting settings will naturally require more power, hence the output for maize and whole crops will be lower than for grass, although this is difficult to compare.

Similarly, the power requirement also increases as the blades become worn and the shearbar setting must therefore be altered. It will be necessary to grind the blades and adjust the shearbar during the season.

SAFETY

Many occupational injuries occur in the agricultural sector as a result of incorrect use of machinery and inadequate instruction. Personal and mechanical safety is therefore an integral part of Kongskilde's development work. **We want to protect you and your family as much as possible**, but to do this we need your wholehearted cooperation.

A precision chop forage harvester cannot be constructed in such a way that it guarantees the full safety of persons and operates efficiently at the same time. This means that it is very important that you as a user of the machine pay attention and use the machine correctly, and thereby avoid exposing yourself and others to unnecessary danger.

As mentioned previously, the machine is intended for one purpose only, namely:

The chopping of grass and other similar green crops for use as fodder.

It is assumed that the machine will be used under reasonable conditions, i.e. that the land has been cared for normally and has been adequately cleared of any foreign objects, etc.

The machine requires skilled operation, i.e. **you should read this safety and operating manual before coupling the machine to the tractor.** Even if you have had a similar machine in the past, you should still read the manuals; your safety is at stake after all.

You should never hand over the machine to anyone else until you have ensured that they possess the knowledge necessary.

DEFINITIONS

The machine's warning labels and user manual contain a number of safety notes. These notes describe specific precautions which we recommend you and your colleagues take in order to safeguard your personal safety as much as possible.

We recommend that you read these safety instructions thoroughly and ensure that your employees do the same.

This symbol is used in the user manual with reference to personal safety either directly, or indirectly through maintenance of the machine.

CAUTION: The word CAUTION is used to ensure that the operator follows general safety rules or the precautions described in the user manual in order to protect themselves and others from injury.

WARNING: The word WARNING is used to warn against visible or hidden risks which could result in serious personal injury.

DANGER: The word DANGER is used to specify precautions which must be taken by law in order to protect both yourself and others against serious injury.

GENERAL SAFETY RULES

The precautions with which the operator should generally be familiar are described briefly below.

1. Always disengage the PTO shaft, activate the tractor's parking brake and turn off the tractor's engine before you:

    - lubricate the machine;
    - clean the machine;
    - disassemble any part of the machine;
    - adjust the machine.

2. Always lock the wheels before working under the machine.

3. Do not start the tractor until everyone is at a safe distance from the machine.

4. Ensure all tools have been removed from the machine before starting the tractor.

5. Ensure all guards have been fitted correctly.

6. Do not wear loose clothing or hair which could be drawn in by a moving part in the machine.

7. Always ensure that you wear suitable footwear to avoid falling.

8. Do not modify guards or work on the machine if a part of a guard is missing.

9. Always follow statutory requirements concerning lights and safety labels when towing the forage harvester on public roads and at night.

10. Limit the transport speed to a maximum of 30km/h if the machine is not marked with another maximum permitted speed.

11. Do not stand near the machine while it is operating.

12. When attaching the PTO shaft, check that the RPM and direction of the tractor's shaft matches those of the machine.

13. Hearing protection should be worn if the noise from the machine is unpleasant or you will be using the machine for long periods in a tractor cab without sufficient sound insulation.

14. Never allow anybody to be on the machine during use or transport.

15. Never use the machine for any other purpose than its intended use.

16. Do not use the machine if there are children in the vicinity.

17. Never stand between the tractor and the machine during coupling and uncoupling.

18. Do not feed material into the cutting unit using your hands or feet while it is operating.

19. Do not attempt to remove material from the cutting unit while it is operating.

20. The PTO shaft must first be fully disconnected if material is to be removed from the forage harvester. Turn off the engine and remove the ignition key.

LOCKING OF GUARDS

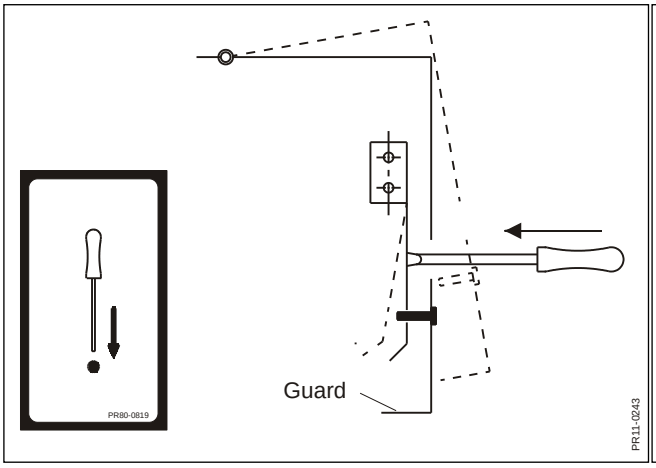


Fig. 1-1

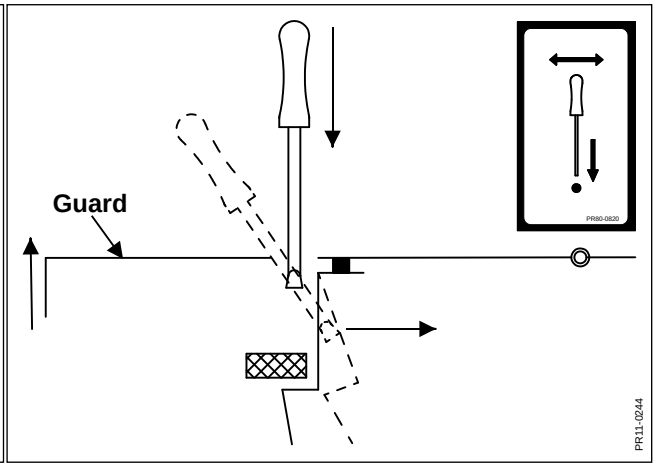


Fig. 1-2

All hinged guards on the machine are fitted with a lock. These locks ensure that the guard cannot be opened without using a tool. There are two different types of lock. Figures 1.1 and 1.2 illustrate the two locking principles and the corresponding transfers which illustrate and indicate the locks on the machines.

CHOICE OF TRACTOR

You should always follow the recommendations laid down in the tractor's user manual. If this is not possible, seek technical assistance.
The lawful transportation of the machine on public roads requires a tractor with sufficient mass and braking capacity.
You should use a tractor with a power output that is within the range specified in the technical data.

A suitable tractor will have a good selection of gears for driving speeds of between 5 and 12km/h.

The tractor's hydraulic system should supply at least 170 bar, and similarly the adjustable relief valve should not permit more than 210 bar.

The drawbar of the precision chop forage harvester has a hitch eye, and for this reason the tractor should preferably have a clevis drawbar. The drawbar pin should be 30mm in diameter.

Always select a tractor with a closed cab when using a precision chop forage harvester.

COUPLING AND UNCOUPLING

Always ensure that nobody is standing between the tractor and the machine during coupling and uncoupling. An unintentional manoeuvre with the tractor may cause serious injury (see fig. 1-3). When uncoupling it is important that the ground is even and stable so that the machine does not move and injure persons or cause damage to other equipment.

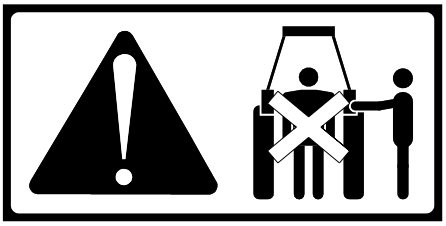


Fig. 1-3

The same precautions must be taken when coupling and uncoupling trailers using a hydraulic hitch attached to the rear of the forage harvester as an accessory.

Check that the machine is suitable for the RPM of the tractor's PTO. Using the wrong RPM may damage the machine, and in the worst case scenario lead to the ejection of components through the delivery chute.

Ensure that the PTO shaft is fitted correctly, i.e. that the locking pin is engaged and the support chain for the guard is fastened at both ends.

The PTO drive shaft must be protected correctly. Guards that are damaged must be replaced immediately.

IMPORTANT: Before connecting the trailer to the hydraulic hitch, always:
- Disengage the PTO;
- Wait until all moving parts have stopped.

Before activating the hydraulic system, always check that all hydraulic couplings are correct and are tight and that all hoses and fittings are undamaged.

Ensure that the hoses are not under pressure when disconnecting them from the tractor.

Hydraulic oil at high pressure can penetrate the skin and cause serious inflammation. You should always protect your skin and eyes from oil splashes (see fig. 1-4). Seek medical assistance immediately if you are splashed by hydraulic oil at high pressure.

Fig. 1-4

ADJUSTMENTS

IMPORTANT: Before adjusting the machine, you must always:
- Disengage the PTO on the tractor;
- Turn off the engine of the tractor and remove the ignition key;
- Wait until all moving parts have stopped.

It is important to wait until all rotating parts have stopped before removing the guards. This particularly applies to the delivery chute above the blade cylinder.

If the cutting parts in the blade cylinder must be adjusted or replaced, it is important to block the blade cylinder using a wooden wedge, as the sharp blades can easily cause damage to multiple fingers, particularly because it is difficult to stop the rotor if started accidentally by the operator.

Before starting work, you should check that the feed rollers and blade cylinder can move freely. Also check that the blades are intact and without cracks. Damaged blades must be replaced to prevent them from blocking or damaging the machine and to avoid metal parts being thrown out from the delivery chute.

Check periodically whether the blades and blade bolts are worn according to the rules in the user manual.

IMPORTANT: The first time you use the machine, the blade bolts may "bed in" and lead to insufficient pretensioning of the blades. For this reason, you must check and tighten the blade bolts after the first hour of use.

TRANSPORT

Limit the transport speed to a maximum of 30km/h if the machine is not marked with a different maximum permitted speed.
Once the machine has been prepared for transport, the control unit must be turned off using the button on the side of the control box, and the oil supply to the machine must be disconnected. This prevents faulty operation during transport.

DANGER: Never allow anyone to climb or ride on the machine.

The machine is fitted with equipment for hydraulic conversion into the transport position, and the cylinder for this is fitted a hose rupture valve. If there is air in the cylinder during transport, there is a risk that the machine may drift into the opposite lane or onto cycle lanes or pavements.

IMPORTANT: If the machine is fitted with an auto-hitch, the mechanical lock on the auto-hitch must be activated when driving while towing a trailer on public roads. This also applies in cases where a hose rupture valve has been fitted to the lifting cylinder of the auto-hitch.

IMPORTANT: Test all hydraulic cylinders following coupling to the tractor in order to remove any air in the oil. This is particularly applicable when driving on public roads.

The attachments for the forage harvester (pick-up, etc.) must be secured mechanically prior to transport.

The statutory requirements concerning lights and traffic safety marking must be positioned correctly, and any trailers attached must also be checked in addition to the forage harvester.
Reflectors and lighting must be cleaned regularly.

OPERATION

Before you start work, ensure there is nobody behind the discharge of the forage harvester due to the danger of being hit by metal parts from damaged blades.

You should also make sure that there are no persons in the trailer used for pick-up. There is a danger of suffocating in the flow of material or being hit by metal parts in the discharge.

If the feed rollers or the blade cylinder are blocked, disengage the clutches and stop the tractor engine immediately. Activate the parking brake and wait until the rotating parts have stopped before attempting to remove the material or foreign object.

WARNING: The following cannot be said often enough: Never remove a material blockage while the machine is running or feed material into the pick-up using your hands or feet, as there is a serious risk of becoming caught and pulled into the forage harvester, which could result in dismemberment or death.

Never allow anyone to stand near the forage harvester while it is operating, particularly children who are unaware of the danger and may behave unpredictably.

The chute may be more than 4 m high. Be aware of high-voltage lines. Keep a safe distance from high voltage lines.

PARKING

The supporting leg must always be locked using the locking pin before the machine is parked, otherwise the machine may tip over during parking. You should also remember to place chocks under the wheels of the machine if there is a risk that the machine will move after parking.

Remember to disconnect the hydraulic hoses and control box before driving away with the tractor.

LUBRICATION

Never allow more than one person at a time to work on the machine when lubricating or undertaking maintenance work. This reduces the risk of you getting your fingers caught because another person turns rotating parts by accident while you are still working with these parts.

Never attempt to clean, lubricate or adjust the machine until the PTO shaft has been uncoupled, the tractor engine has stopped and the parking brake has been activated. Remove the ignition key!

GRINDING

Always follow this procedure when switching to or from grinding:

- Stop the tractor engine and remove the ignition key;
- Activate the parking brake;
- Wait until all moving parts have stopped.

It is necessary to remove some of the guards to change the direction of rotation of the rotor when grinding the blades. As there are chain and belt transmissions, your hands may be injured if the rotating parts have not stopped before the guards are removed.

Grinding is performed using the following procedure:

1. Check to make sure that the grindstone is free from damage and that the device can move backwards and forwards easily.

2. Lower the guard behind the grinding device to give free access to the blade cylinder.

3. Adjust the stone before replacing the guard on the grinding device again.

4. Remove the guard above the blade cylinder transmission and change the direction of rotation of the rotor.

5. Attach the guard again and check that no one is near the machine.

6. Start the tractor again and keep the RPM close to idling.

7. Perform the grinding carefully.

Always use safety glasses when grinding, as small particles may fly off the grindstone.

Following grinding, stop the tractor engine again, remove the ignition key, change the direction of rotation and fasten all guards.

REMEMBER: Always grind with all guards closed!

MAINTENANCE

All bolts should be re-tightened after approximately δαψσ οφ οπερατιον.
Always make sure that spare parts that have been fitted have been tightened with the correct torque.

Always ensure that the pick-up is in contact with the ground and/or the lifting cylinder are blocked when replacing parts in the hydraulic system in order to avoid unintentional movements and oil leakage,

Hydraulic hoses must be checked by suitably qualified personnel before they are used for the first time and thereafter at least once a year. They must be replaced as and when necessary. The working life of hydraulic hoses must not exceed six years, including a maximum storage period of two years.
When replacing hoses, use hoses which meet the requirements specified by the equipment manufacturer. All hoses are marked with their date of manufacture.

REPLACING WEARING COMPONENTS

Blades, blade bolts and the shearbar are made from high alloy, heat-treated materials. This heat treatment produces a particularly hard and tough material capable of tolerating extreme stress. Damaged blades, blade bolts or shearbars must be replaced by original KONGSKILDE spare parts to ensure optimal reliability.

Blades and blade bolts must be checked every day during the season.

The special blade bolts must be tightened using a torque wrench to 40 kgm.

The blades must be replaced once they have worn to a maximum of 8 mm or around 12 mm above the straight piece (see fig. 1-5).

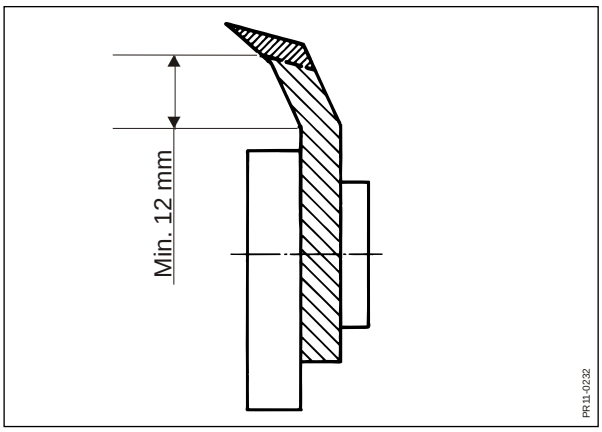
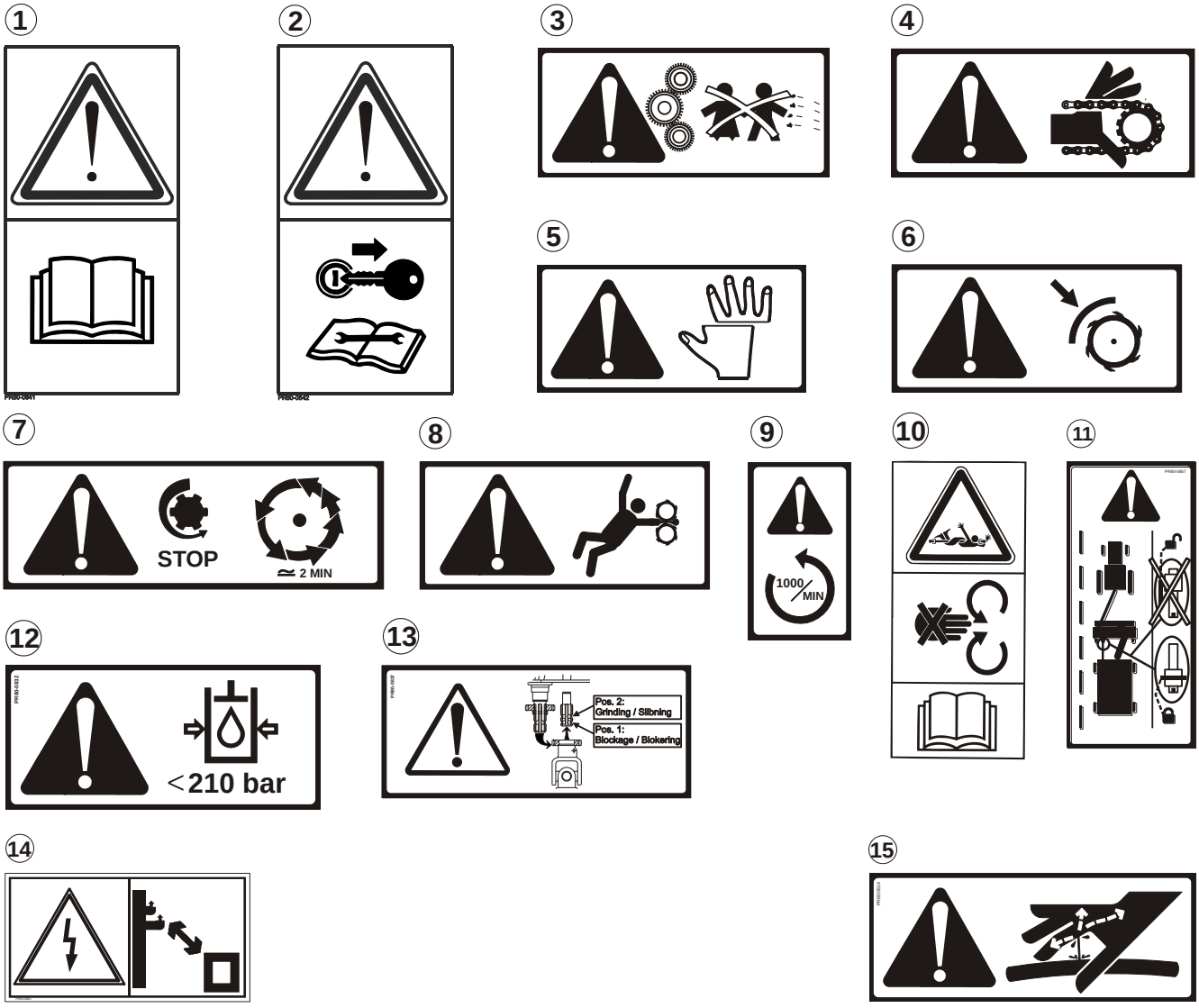


Fig. 1-5

Following the replacement of blades and blade bolts, etc., check that no tools have been left in the machine.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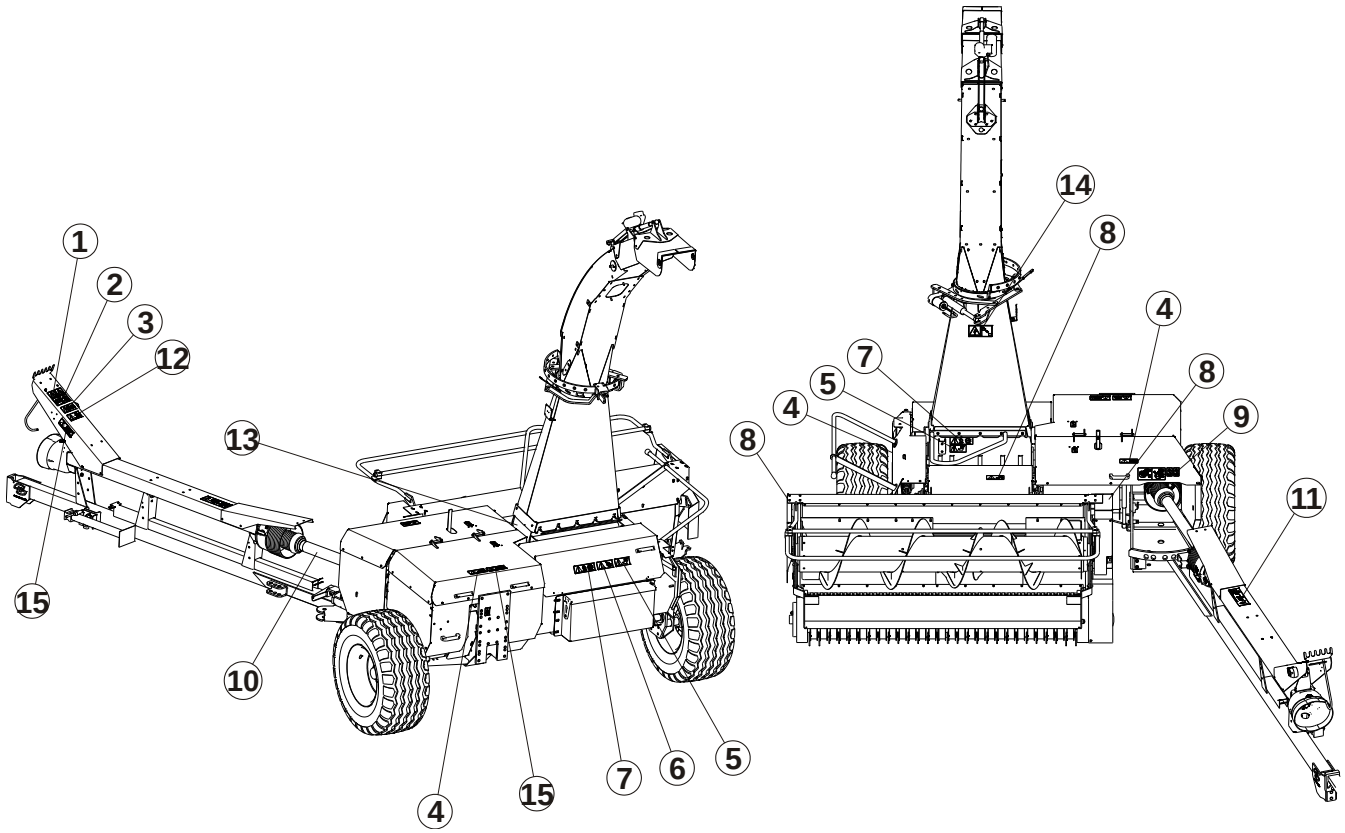
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MARKINGS ON THE MACHINE

The warning labels shown on the previous page are positioned as shown on the drawing at the bottom of the page. Before you start using the machine, ensure that all labels are present; if not, replace any that are missing. The labels have the following meaning:

1. **Stop the tractor's engine and remove the ignition key before touching the machine.**
   Always remember to stop the tractor's engine before lubricating, adjusting, maintaining or repairing the machine. Remove the ignition key so that you can be certain no one will start the tractor again until you have finished.

2. **Read the user manual and safety instructions.**
   This is a reminder that you must read the documents supplied to ensure that you operate the machine correctly and avoid any unnecessary risk of accidents and mechanical damage.

3. **Children.**
   Never allow children near the machine while it is in operation. Young children in particular have a tendency to do unpredictable things.

4. **Chain drives.**
   One or several chain drives are located beneath this guard. Ensure that the tractor's engine has been turned off before opening the guard.

5. **Risk of cutting.**
   There is a risk of fingers, etc. becoming crushed in various parts of the machine. Be careful when the machine is coupled to the tractor and ready for use. The machine can easily crush or cut off any part of the body that might get caught in the machine.

6. **Remember the guards when grinding.**
   Remember to close ALL guards after switching to grinding mode before commencing grinding.

7. **Rotating parts.**
   After the tractor's PTO drive shaft has stopped, the blades will have momentum which will keep them rotating for up to two minutes. Wait until the blades have come to a complete stop before removing guards for inspection or maintenance.

8. **Risk of entanglement.**
   Keep away from the vicinity of any attachments and feed rollers while the machine running. Ensure that the tractor's engine has stopped first.

9. **RPM and direction of rotation.**
   Check that the PTO shaft is operating at the correct RPM and rotating in the correct direction. Using an incorrect RPM and/or direction will damage the machine over time, resulting in a risk of personal injury.

10. **PTO drive shaft.**
    This label is intended to remind you how dangerous the PTO shaft can be if it is not correctly coupled or protected.

11. **Auto-hitch.**
    Always block the hydraulic hitch using the pin supplied before driving on public roads with a trailer attached.

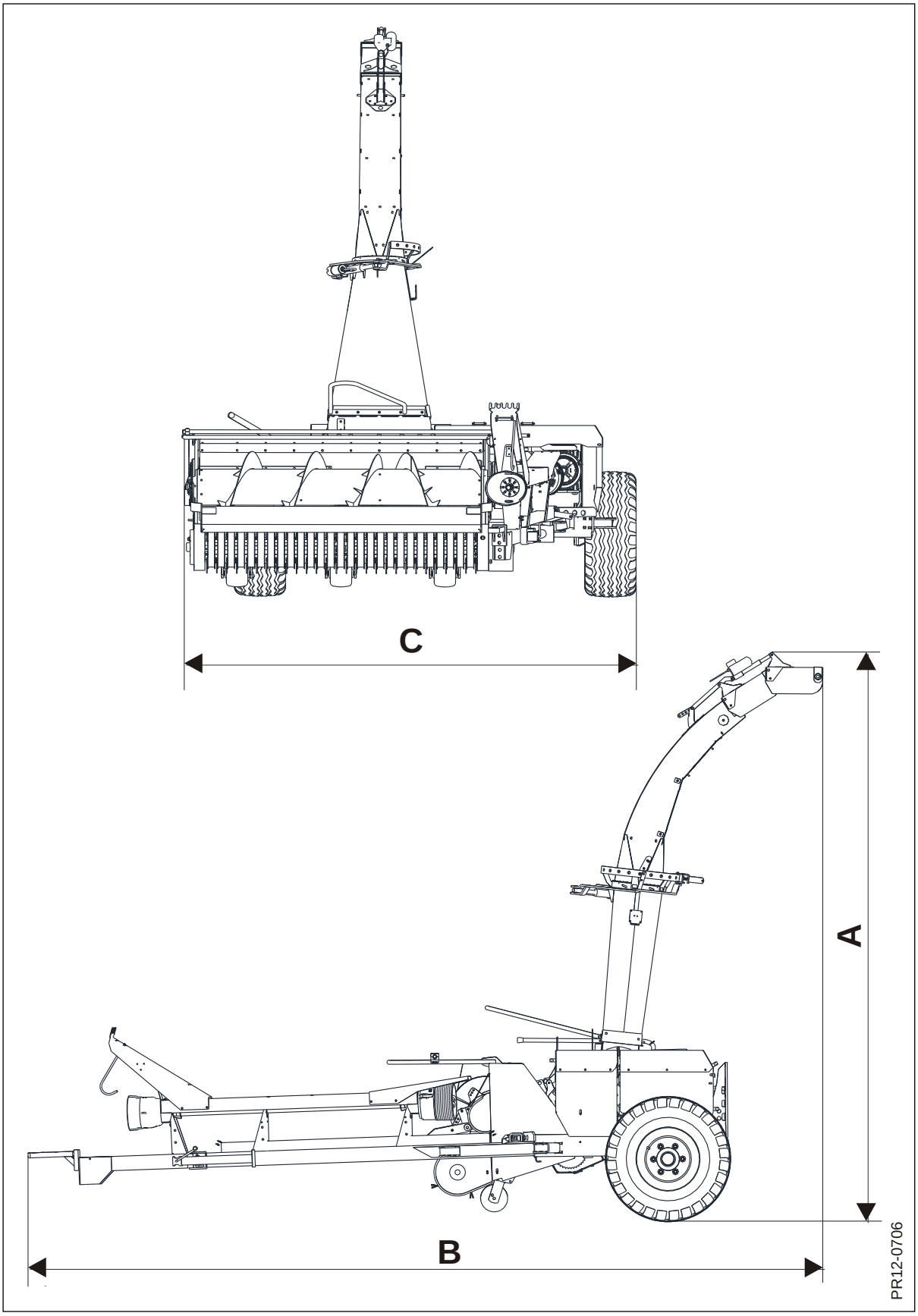
12. **Maximum 210 bar.**
    Ensure that the hydraulic components are not subject to a pressure greater than the maximum of 210 bar, as there could be a risk of explosive damage to components. This will result in both yourself and others being at serious risk of being hit by metal components at high speed or oil under high pressure.

13. **PTO drive shaft for rotor.**
    There is an alternative pin for the PTO drive shaft for the rotor. This is used both when the rotor is disconnected for reversing and when the rotor rotates in the opposite direction for grinding. Ensure that you place the PTO shaft correctly on the pin when performing these operations.

14. **High-voltage lines.**
    This label is intended to warn of the danger of getting too close to high-voltage lines with the machine.

15. **Hydraulic oil under pressure**
    Warning against hydraulic oil under pressure.

DIMENSIONS



TECHNICAL DATA

TECHNICAL DATA		FCT 1060C	FCT 1060	FCT 1060 MD
Metal detector		-	-	Standard
pick-up width		1.8 m or 2.1 m	1.8m or 2.1m	1.8 m or 2.1 m
Power requirement [kW/HP]		88–147 / 120-200	88–147 / 120-200	88–147 / 120-200
RPM PTO		1,000 RPM.	1,000 RPM.	1,000 RPM.
Friction clutch in PTO shaft		1,800 Nm	1,800 Nm	1,800 Nm
Width of blade rotor		0.72 m	0.72 m	0.72 m
RPM for rotor		1,600 RPM.	1,600 RPM.	1,600 RPM.
Number of blades		24 or 32	24 or 32	24 or 32
Theoretical cutting length with 24 blades		8.5 and 16.5 mm	8.5 and 16.5 mm	8.5 and 16.5 mm
Reversible shearbar		Standard	Standard	Standard
Number of feed rollers		4	4	4
Feed reversal		Electric	Electro-hydraulic	Electro-hydraulic
Turning angle for chute		175 degrees	280 degrees	280 degrees
Max. weight		2,440 kg	2,440 kg	2,440 kg
Maximum width with standard wheel **C**		3.1 m	3.1 m	3.1 m
Maximum width with standard wheel **B**		6.3 m	6.3 m	6.3 m
Transport heigh **A**	Standard	4.0 m	4.0 m	4.0 m
	Parallel operation	4.4 m	4.4 m	4.4 m
	Folding chute	3.7 m	3.7 m	3.7 m
Standard tyre size		14/65 x 16	14/65 x 16	14/65 x 16
Tyre size (accessory)		19/45 x 17	19/45 x 17	19/45 x 17
Free-wheeling clutch in PTO shaft		Standard	Standard	Standard
Steel wheels on pick-up		Standard	Standard	Standard
Hitch for trailer: drawbar load/total weight		2,000 kg/ 15,000 kg	2,000 kg/ 15,000 kg	2,000 kg/ 15,000 kg
Folding chute		-	Accessories	Accessories

Kongskilde Industries A/S reserves the right to make construction and specification changes.

2. CONNECTING TO THE TRACTOR

The FCT 1060C has an electric actuator for controlling the deflector, chute swivelling and feed/reverse, hereinafter referred to as "actuator control". The FCT 1060 and FCT 1060 MD have hydraulic cylinders for these functions, which are referred to in this manual as "electro-hydraulic control". There is therefore a separate section for each type, i.e. both hydraulic control and electric control.

HYDRAULICS

DANGER: **The hydraulic components must not be exposed to a working pressure in excess of 210 bar, as a higher working pressure may gradually cause parts to be damaged. This poses a serious risk of personal injury.**

CAUTION: It is important that the quick-release couplings are always thoroughly cleaned prior to fitting in order to prevent impurities from penetrating the hydraulic system and damaging important valve functions. When the hydraulic hoses are not connected to the tractor, these should be positioned in the holder at the end of the drawbar.

ACTUATOR CONTROL

The FCT 1060C requires a single hydraulic outlet for the pick-up/cutting unit, and a double-acting outlet for this if a hydraulic drawbar is used. A double-acting outlet is also required for the hydraulic hitch, supplied as an accessory.
The tractor should therefore have two double-acting outlets and one single-acting outlet in order to operate a fully equipped FCT 1060C.

Fig. 2-1

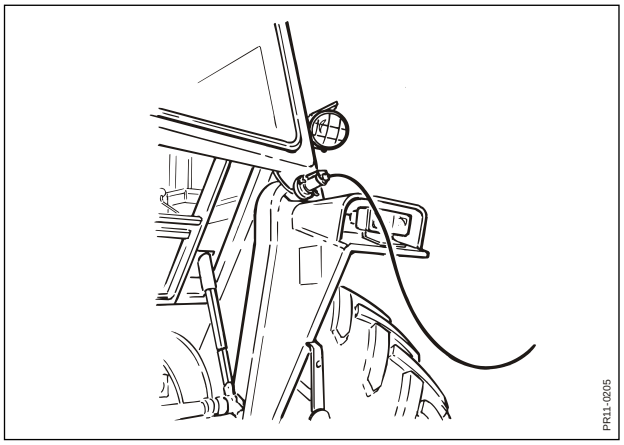


Fig. 2-2

Fig. 2-1 The machine is equipped with the electrical control system for chute swivelling, deflector and reverse function.

It can be a good idea to position the control box on the right armrest of the tractor seat for easy access while working in the field, see figure 2-1.

The control box is equipped with detachable fittings that can be permanently screwed into the cab, allowing subsequent dismantling without the use of a tool.

The male connector for the power supply connects to a female connector inside the tractor cab. This provides 12 V of power and allows a current of 25A. Contact your retailer for an adapter if your tractor does not use the same connectors.
You will need to fit the female connector supplied if there is no female connector in the tractor, or if the existing connector in the tractor is unable to supply the current that is required.
The cable for this is connected directly to the tractor's battery, as the cable with the fuse box is connected **+** (positive) to the battery (remember that the fuse must be located in the immediate vicinity of the battery).

It is very important for the functioning of the electrical system that there is a good connection to - (minus/earth) and **+** (positive) on the battery.
Other connections, e.g. for the lighting network are not recommended, as the wire thickness for this system is generally inadequate for supplying the requisite power.

Fig. 2-2 The seven-pole female connector is fitted just outside the cab at the rear of the tractor (fitted on the wire from the control box).
This is where the seven-pole male connector from the machine is connected.

IMPORTANT For parking, the seven-pole male connector must be placed in the holder on the front guard of the drawbar.

OPERATING THE ELECTRICAL CONTROL SYSTEM

Fig. 2-3

Fig. 2-3 The machine is operated from the control box, which controls the electrical functions.

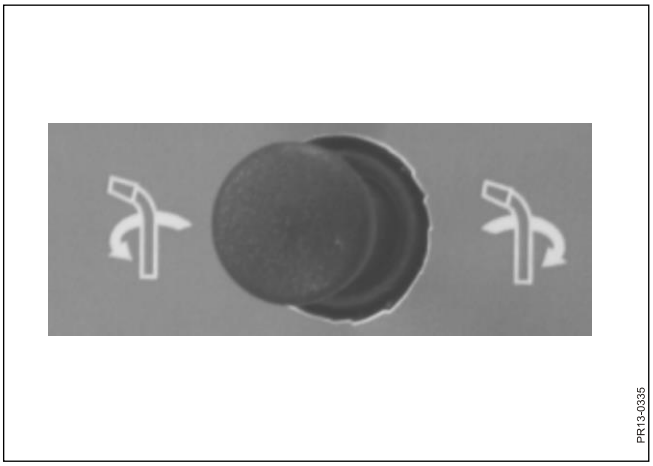


Fig. 2-4

Fig. 2-4 **On the joystick:**
Chute: Push to the left: The chute turns anti-clockwise. Push to the right: The chute turns clockwise.

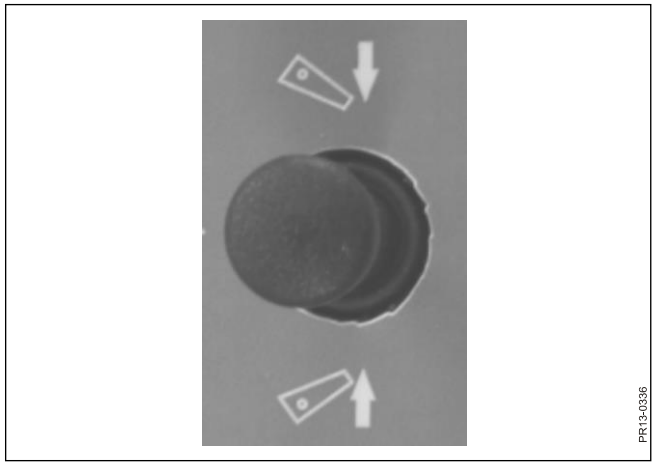


Fig. 2-5

Fig. 2-5 On the joystick:
Chute: Push forwards: The deflector points downward. Pull back: The deflector points upward.

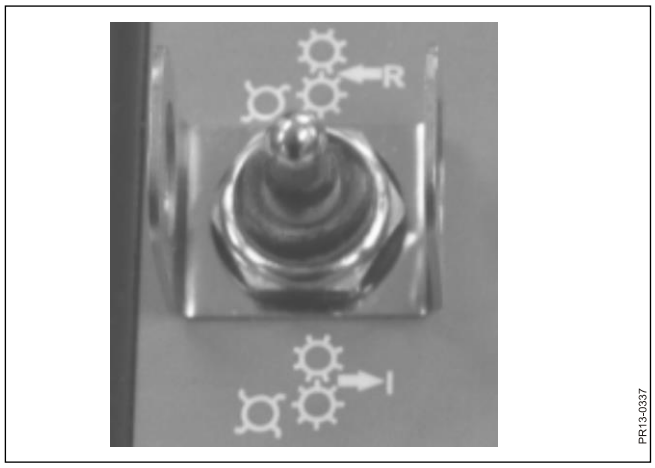


Fig. 2-6

Fig. 2-6 Reverse function. Applies to feed rollers and pick-up.

Feed in: Toggle switch is moved backwards. The switch may be released when the feed rollers and pick-up have started. This may take around five seconds.

Reversing: Toggle switch is moved forwards. **Caution: Only reverse for short periods of time. Use a low RPM when using the reverse function.**

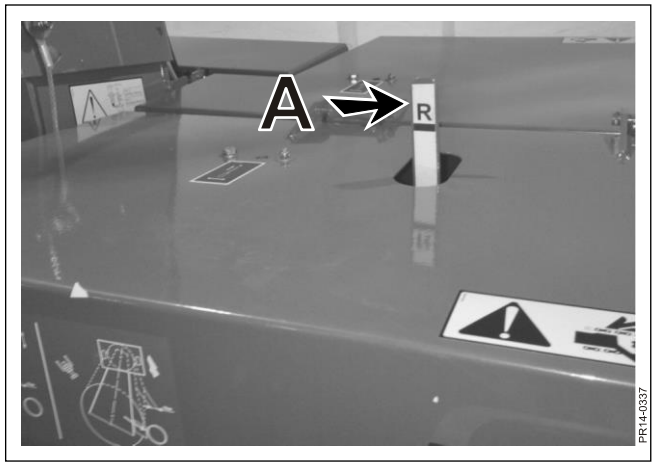


Fig. 2-7

Fig. 2-7 The position of the reverse may be checked using the indicator **A**.

ELECTRO-HYDRAULIC CONTROL

The machine is equipped with its own hydraulic system, which must be supplied with oil from the tractor.
The system is used for pick-up lifting, drawbar, chute swivelling, deflector and reverse function. None of these functions uses very much oil and are controlled in the best way when the oil flow is low. You should therefore set the oil flow from the tractor to 10-15 l/min., or as low as possible.
Connect the hoses to a double-acting outlet on the tractor, or better still: connect the pressure hose to the A-port on the hydraulic outlet and the return hose to a vacant return-port leading directly to the tank or rear-axle assembly. This ensures that the return pressure is suitably low. This is especially important if the oil flow from the tractor cannot be adjusted to a sufficiently low level.

IMPORTANT: The hydraulic port for the selected A port must be locked in the pressure position to ensure a continuous oil flow to the machine's hydraulic system.

The machine will control the oil pressure and flow itself if it has been fitted with LS.

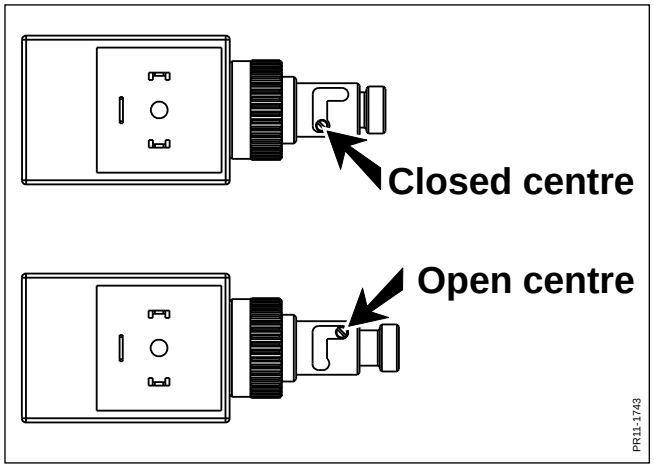


Fig. 2-8

Fig. 2-8 A distinction is made between two types of tractor hydraulic systems: "open centre hydraulics" (also known as "fixed pump") and "closed centre hydraulics" (also known as "variable pump").

If the tractor is of the **“open centre"** type, the bypass valve must be **open** to permit the passage of oil back to the tractor, and will only be activated when a function on the machine is activated. The valve may be altered using the thumbscrew if it is not open.

If the tractor is of the **“closed centre"** type, the bypass valve must be **closed** to permit the tractor to close the oil flow automatically when no functions are active. The valve may be altered using the thumbscrew if it is not closed.

The bypass valve is located at the bottom of the valve block.

None of the hydraulic functions use more than around 15-20 litres of oil per minute.
You should therefore set the oil flow from the tractor to 15-20 l/min., or as low as possible.
The bypass valve has been designed for a maximum of 40 l/min. Pressure loss will occur if this limit is exceeded, which can cause the temperature of the oil and valves to increase.

The bypass valve must be set to **closed centre** if the machine has been fitted with LS.

Fig. 2-9

Fig. 2-9 The machine is equipped for complete electronic operation of all the machine's hydraulic functions. The electronic operation consists of two units:

- A control unit mounted on the machine together with the hydraulic system. This unit activates the hydraulic valves;
- A control box for operation of the hydraulic functions. This can be beneficially positioned on the right armrest of the tractor seat for easy access while working in the field.

The control box is equipped with detachable fittings that can be permanently screwed into the cab, allowing subsequent dismantling without the use of a tool.

The male connector for the power supply connects to a female connector inside the tractor cab. This provides 12 V of power and allows a minimum current of 15 A. Contact your retailer for an adapter if your tractor does not use the same connectors.

IMPORTANT: When the machine is parked, the control box should be placed in the holder beneath the front guard of the drawbar.

ELECTRO-HYDRAULIC CONTROL

The machine is operated from the control box, which controls the electro-hydraulic functions.

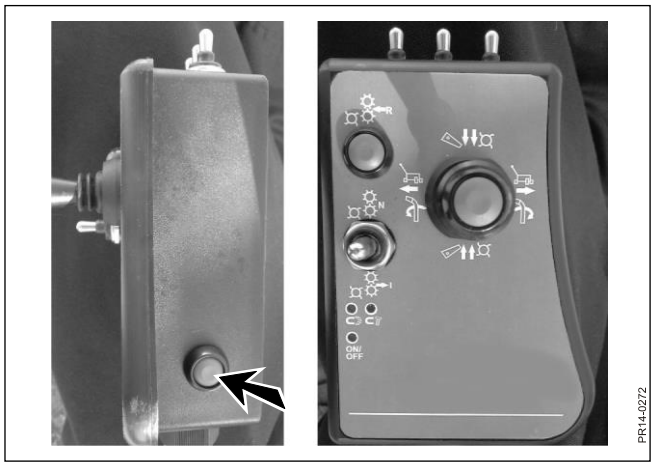


Fig. 2-10

Fig 2-10 The control is turned on and off on the side of the control box.

IMPORTANT: Remember to turn off the control box if the tractor is going to be stopped for some time. Although the machine is not in operation, several electric coils may be activated. These will drain the tractor's battery.

FUNCTIONS

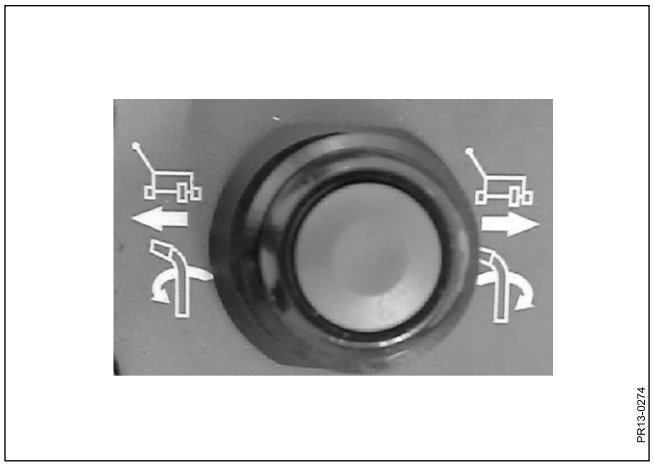


Fig. 2-11

Fig. 2-11 On the joystick:

Chute: Push to the left: The chute turns anti-clockwise. Push to the right: The chute turns clockwise.

Drawbar: While pushing the button: Push to the left: The machine moves behind the tractor. Push to the right: The machine moves out to the swath.

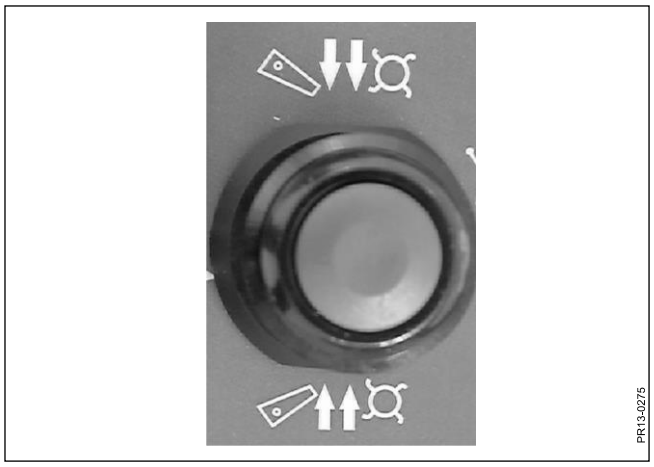


Fig. 2-12

Fig. 2-12 On the joystick:

Chute: Push forwards: The deflector points downward. Pull back: The deflector points upward.

Pick-up: While pushing the button: Push forward: The pick-up is lowered. Pull back: The pick-up is raised.

It takes around two seconds to lower the pick-up completely so that the supporting wheels can follow the ground

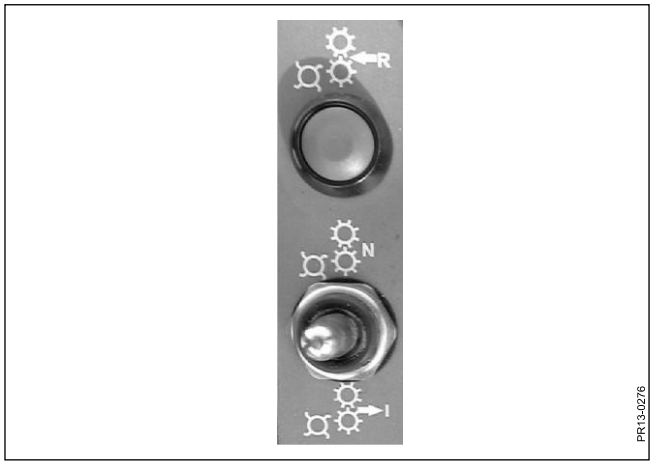


Fig. 2-13

Fig. 2-13 **Reverse function.** Applies to feed rollers and pick-up.
Feed in: Move the toggle switch to the rear.
Neutral: Move the toggle switch forward for around two seconds and then back to the centre position. Feed rollers and pick-up stay in neutral position.
Reverse: With the toggle switch in the centre position, you reverse by holding down the push-button. Reversing will stop when you release the button.

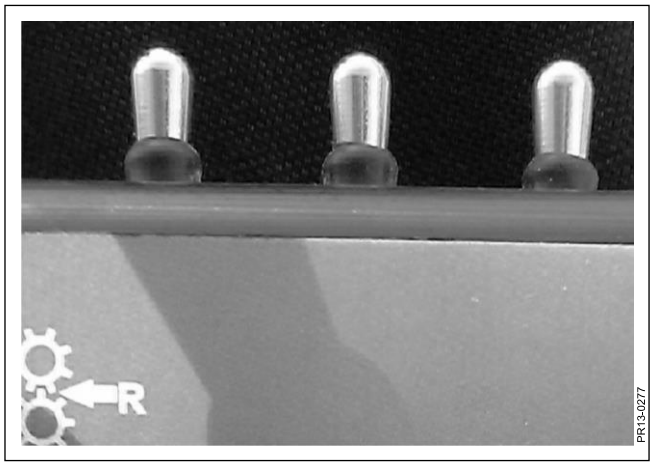


Fig. 2-14

Fig. 2-14 There are three toggle switches at the top of the control box intended for optional equipment. These switches automatically return to the neutral centre position after being activated

Control lights

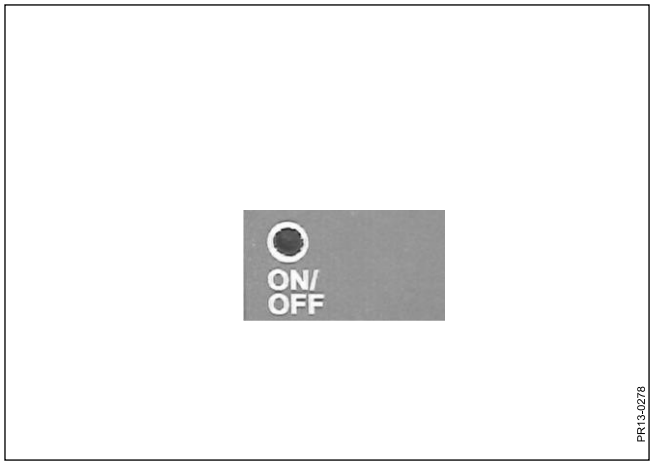


Fig. 2-15

Fig. 2-15 This light will be illuminated when the control unit is switched on.

Machines with a metal detector

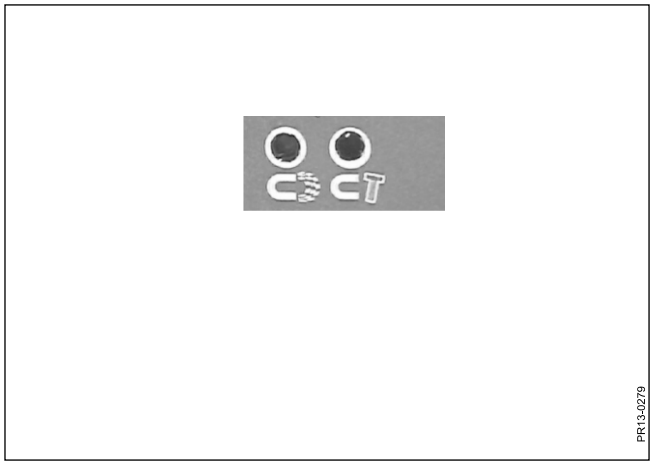


Fig. 2-16

Fig. 2-16 The control light on the left is illuminated when the metal detector is active. It turns off when there is a stoppage caused by metal or if the metal detector is turned off.

The control light on the right will illuminate when there is a stoppage caused by metal. If the light flashes, this indicates that the control box has been turned off or there is a loose connection with the control box on the tractor.

On machines with a metal detector, the detector turns on each time the control unit is switched on. If you wish to turn off the metal detector, this can be done by pushing the button on the MD control unit on the machine.

Hold the button for about 5 seconds. The control light on the left of the control box then extinguishes. The control light on the left of the control box will remain illuminated until the metal detector is turned off.

See also the section: "MD-CONTROL"

DRAWBAR AND PTO DRIVE SHAFT

The hitch eye of the drawbar is intended for a 30 mm hitch pin. The hitch pin must be secured.
The drawbar load is 500 kg.

The PTO drive shaft between the tractor and the machine is a wide-angle shaft, which enables the machine to turn sharply and thus achieve a small turning radius. The mounting of the PTO drive shaft must always be adjusted according to the tractor that is being used to tow the machine, which means that it may be necessary to shorten the PTO drive shaft

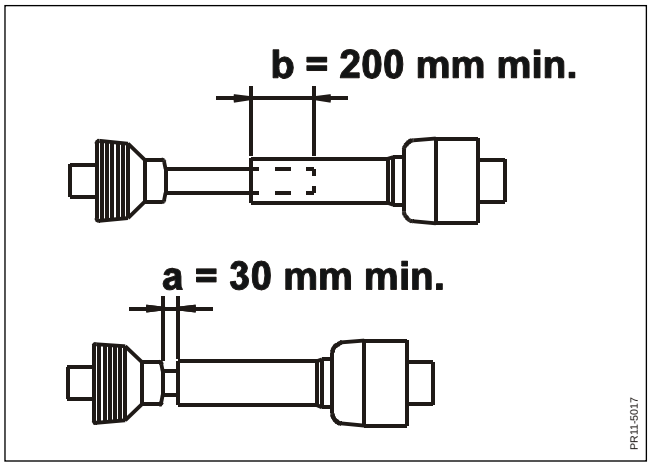


Fig. 2-17

Fig. 2-17 The following general rules must be observed for the adjustment of the PTO shaft between the tractor and the machine:

- The operating position has minimum overlap of 200 mm, see measurement **b** in the figure;
- Under no circumstances should the shaft be closer to the block than 30 mm, see measurement **a** in the figure.

WARNING: To observe the latter, the tractor driver will often need to check the length of the shaft when turning in the field and adjust his or her driving accordingly.

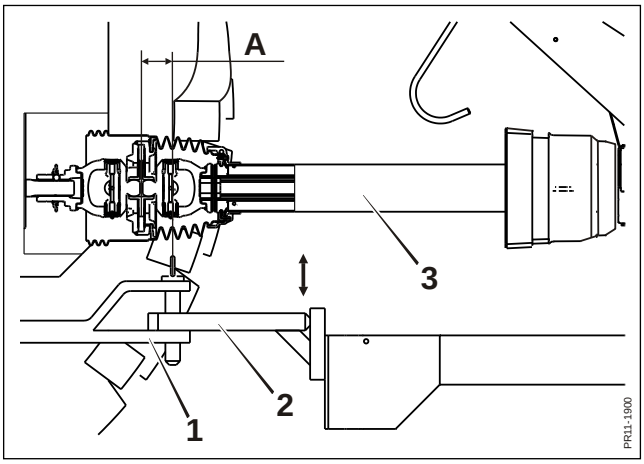


Fig. 2-18

Fig. 2-18 Adjust drawbar **1** of the tractor so that distance "**A**" is as short as possible. This then allows the wide-angle to accommodate the majority of the angle when turning. Adjust the height of drawbar **2** of the machine so that PTO shaft **3** is as close to horizontal as possible.
N.B.: The drawbar tongue **must** be mounted with two bolts.

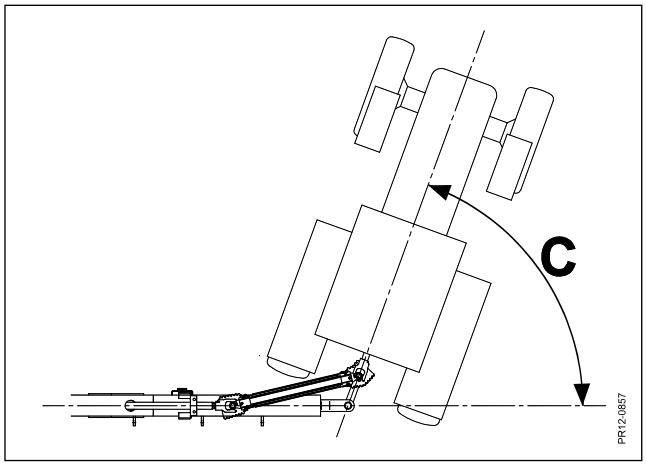


Fig. 2-19

Fig. 2-19 Check the maximum turning angle "**C**". Due to the position of the PTO drive shaft, turning angle "**C**" is limited by the fact that the PTO drive shaft must not compressed more than the prescribed 30 mm distance from the block.

In some cases, it is possible to increase the turning angle "**C**" by shortening the PTO shaft.

Fig. 2-17 The PTO drive shaft should only be shortened if the overlap is more than 200 mm when driving forward with the machine in the operating position.

SHORTENING THE PTO SHAFT

Particular caution is required when shortening the PTO shaft. If the PTO drive shaft is shortened too much, there is a risk that the profile tubes may be pulled apart, which may cause serious damage.
This particularly applies in connection with operation on hilly ground, when the machine and the tractor have varying angles in relation to each other. Conversely, if the PTO drive shaft is not shortened enough, there is a risk of squeezing during sharp turns, which may cause high frictional forces in the PTO drive shaft, which in turn will damage the axle joints.

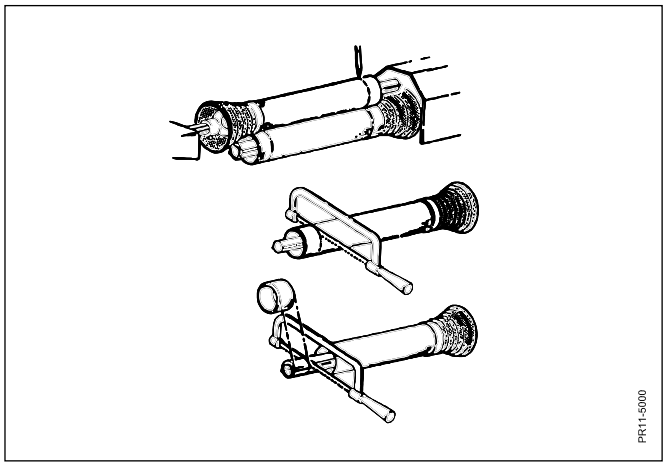


Fig. 2-19

Fig. 2-19 Fasten the halves of the shaft to PTO and PIC (fig. 2.17) respectively when these are immediately opposite each other with the machine in the operating position. (The longest distance on this machine). Hold the shaft ends parallel to each other and mark the desired amount to be shortened, but with an overlap of no less than 200 mm. Shorten all four tubes by the same amount.
Round off the ends of the tube profiles and carefully remove any burrs. It is very important that the tubes are smooth and clean prior to lubrication. Lubricate the tubes carefully before reassembling.

WARNING: **To avoid bottoming the shaft, never turn so sharply that there is less than the prescribed 30 mm distance. See measurement a in fig. 2-17.**
If the PTO drive shaft bottoms when turning sharply, there is a risk that the shaft and/or other transmission parts will be damaged.

FRICTION CLUTCH

There is an integral friction clutch on the PTO drive shaft between the drawbar and the gearbox, which ensures that the machine is not overloaded during operation.
The clutch must be "vented" before you start a new machine. See section concerning the friction clutch in chapter 7 "MAINTENANCE".

3. COUPLING OF EQUIPMENT

Coupling for the first time is easiest in a workshop on even ground. The basic machine must always be coupled correctly to the tractor in accordance with section 2 "CONNECTING TO THE TRACTOR" before equipment and accessories are connected up.

PICK-UP

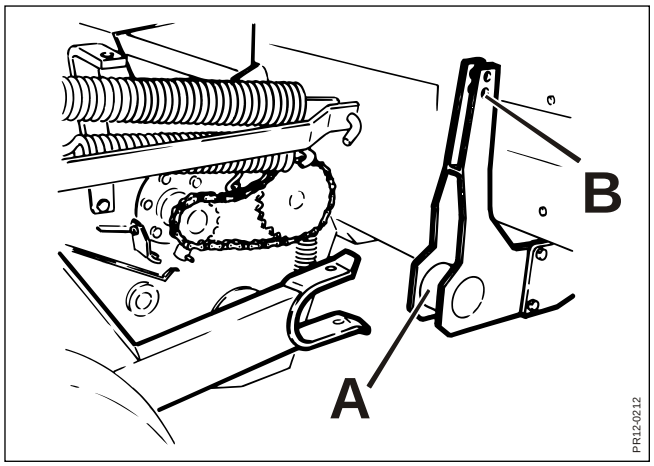


Fig. 3-1

Fig. 3-1 Wheel the pick-up on the rollers to the machine so that catch **A** is engaged. Fit the two pins and lock them with split pins in order to lock the pick-up to the basic machine.
Attach the relief device to the pick-up at **B**.

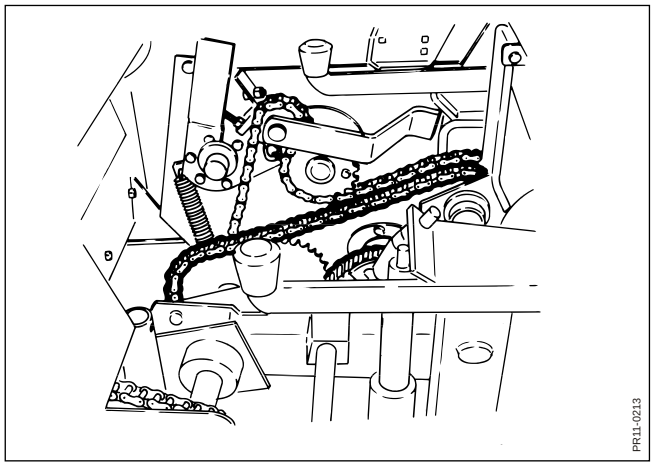


Fig. 3-2

Fig. 3-2 Fit the chain drive for the pick-up.

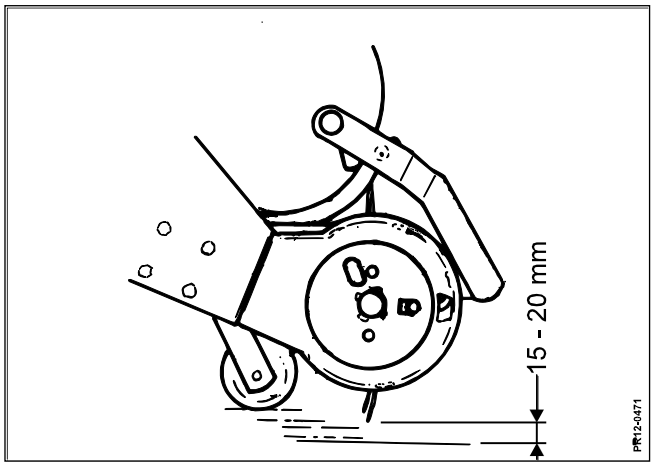


Fig. 3-3

Fig. 3-3 The height of the rollers under the pick-up can be adjusted. Adjust the height so that there is a distance of 15 – 20 mm between the points of the pick-up tines and the ground.

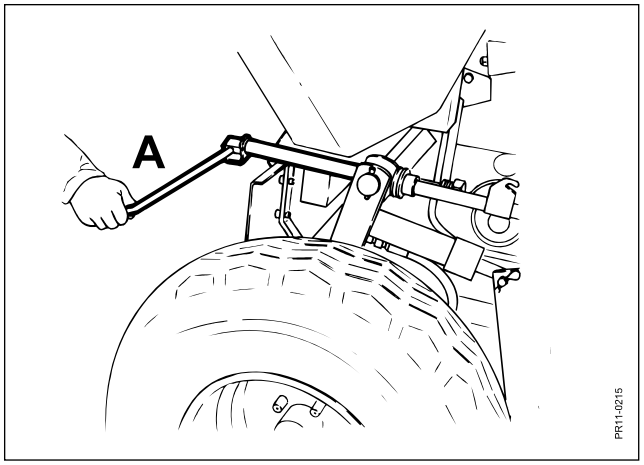


Fig. 3-4

Fig. 3-4 Tighten the relief springs using spindle **A** until the ground pressure for the pick-up is maximum of 30 kg.

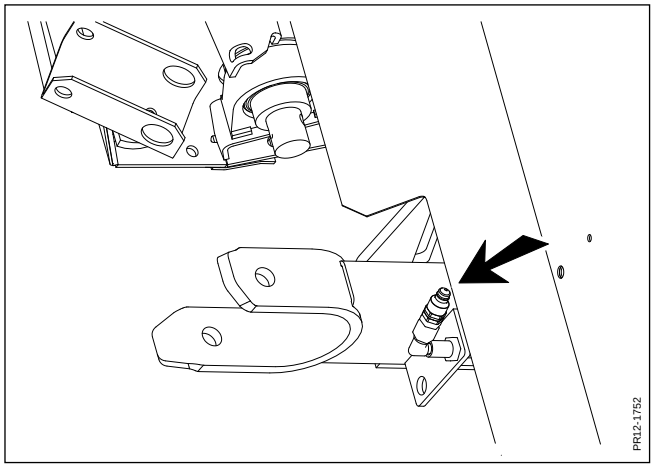


Fig. 3-5

Fig. 3-5 If the pick-up has equipment for lifting an auger and front roller, the hydraulic hose for lifting the auger and front roller must be connected to the quick-release coupling at the left-hand catch.

TRANSPORT CONVERSION

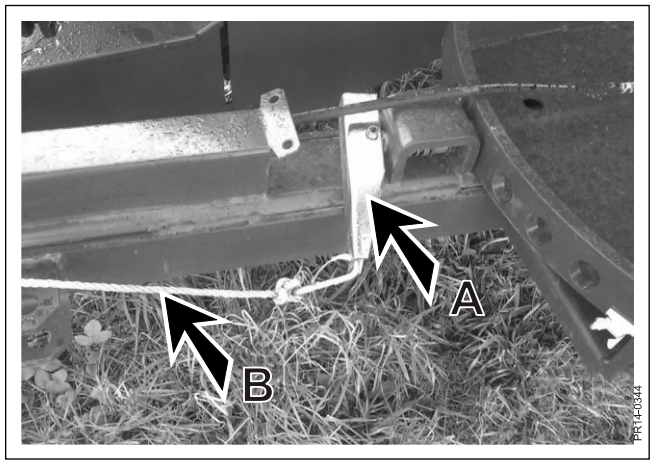


Fig. 3-6

Fig. 3-6 If the machine is equipped with a mechanical lock on the drawbar, you must pull the catch out using the cord. Once the catch has been fully removed, move backwards and forwards with the tractor so that the drawbar moves in the desired direction. When this is close to the desired position, you can let go of the cord so that the catch falls into position when it lines up with a hole.

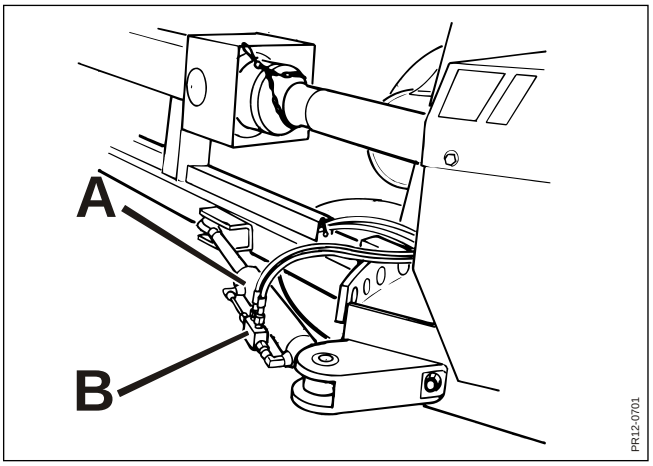


Fig. 3-7

Fig. 3-7 The drawbar may be fitted with a hydraulic cylinder. The cylinder can be adjusted using the tractor's hydraulic lever if there is actuator control, and using electro-hydraulics with a joystick on the control box if there is electro-hydraulic control.
The hydraulic cylinder is equipped with a safety valve **B** which ensures that the machine does not make any unintentional movements in cases where there may be a leaking hose.

CHUTE AND DEFLECTOR FOR ACTUATOR CONTROL

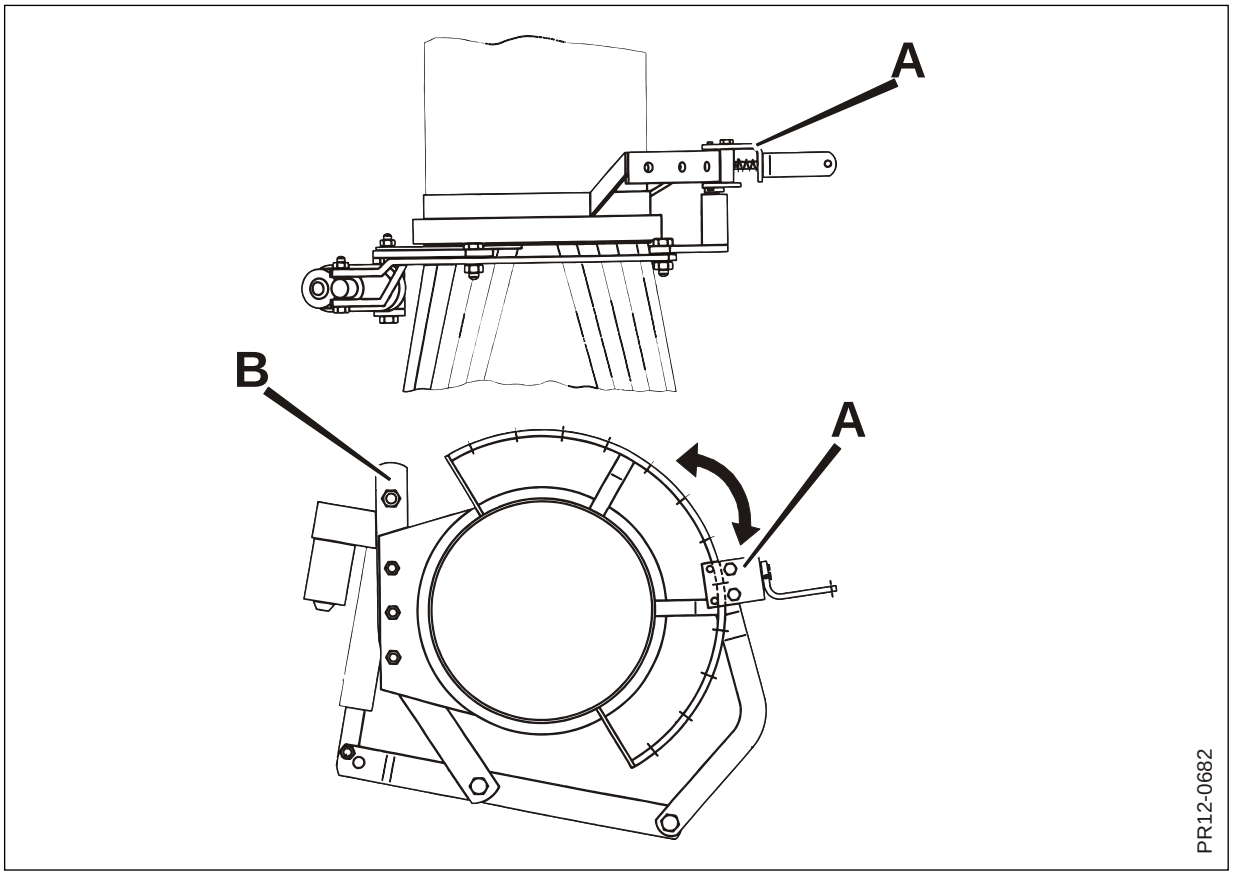


Fig. 3-8

Fig. 3-8 Once the rotating chute has been fitted and adjusted, the fully assembled swivel bracket can be fitted as shown in the figure.

Place bracket **A** above the adjustment rail and assemble, before fitting motor bracket **B** and tightening. Lubricate the swivel head and check that the delivery chute turns without catching.

IMPORTANT: Ensure that you lubricate the swivel head, while turning the delivery chute with your hand to distribute the grease all the way around.

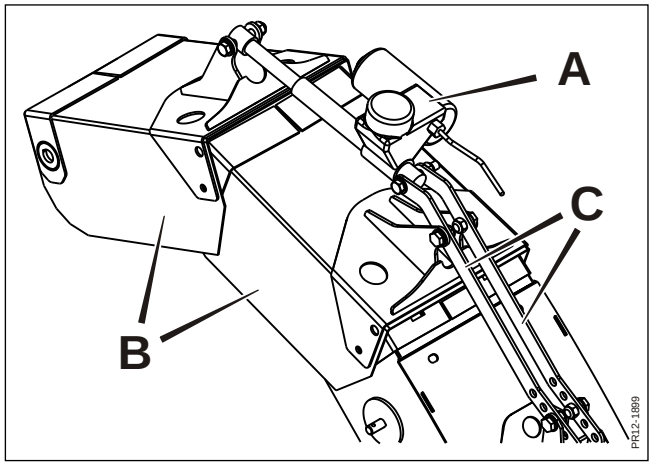


Fig. 3-9

Fig. 3-9 The electric motor **A** for the deflectors **B** must also be fitted. Bracket **C** is used for adjusting the single deflector. The position depends on the trailer used and the position of this.

Connect the seven-pole connector from the machine to the female connector in the tractor cab in accordance with the "connecting the electrical system" section in chapter 2 "CONNECTING TO THE TRACTOR".

You must now check that the right/left turning of the chute and up/down movement of the deflector corresponds to the labelling of the joystick on the control box in the tractor cab.
If the movements and labelling do not correspond, change the direction of movement by switching the wires for the motor(s) concerned in the junction box.

CHUTE SWIVELLING FOR ELECTRO HYDRAULIC CONTROL

The following three positions are available for fitting the chute swivelling bracket, in order to optimise unloading to a selected side.

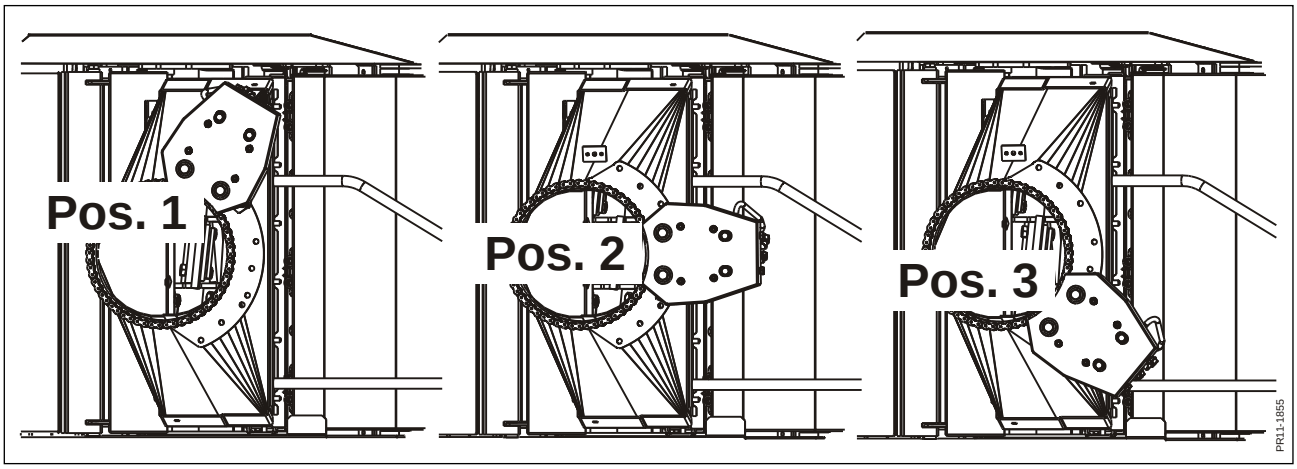


Fig. 3-10

Fig. 3-10 Position one for unloading to the right
Position two for unloading both sides. Cannot be used with the folding chute.
Position three for unloading to the left

When the chute is fitted, you must carefully turn from outer position to outer position to ensure that the hydraulic hoses are fitted correctly and are long enough.

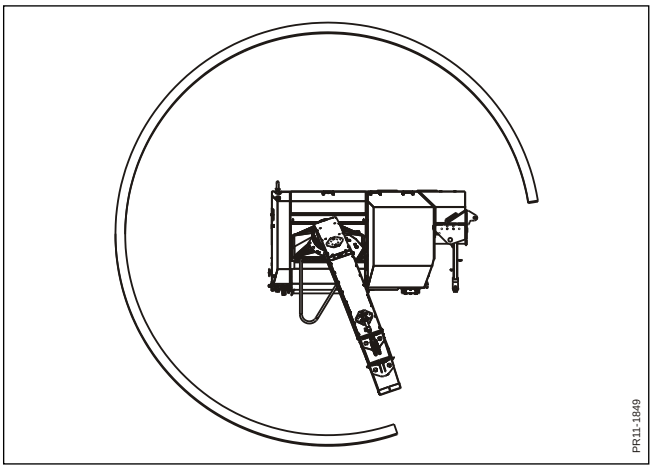


Fig. 3-11

Fig. 3-11 Position one

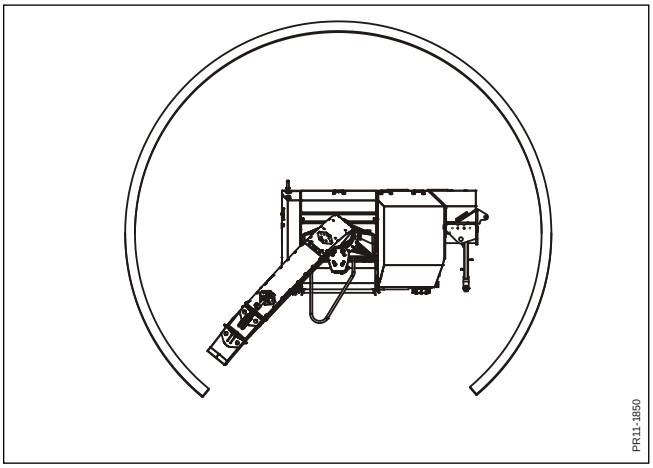


Fig. 3-12

Fig. 3-12 Position two

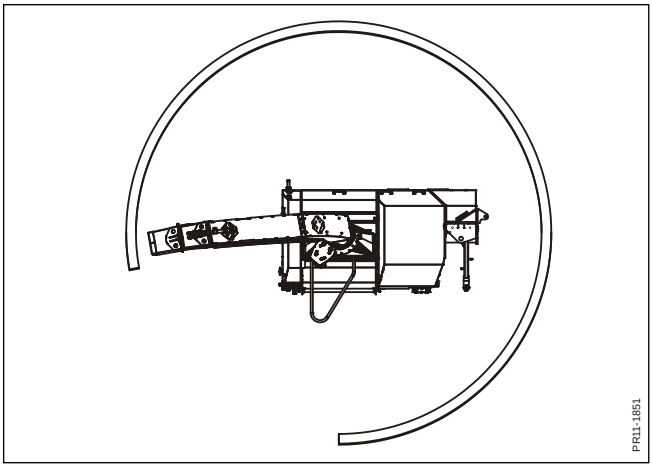


Fig. 3-13

Fig. 3-13 Position three

FOLDING CHUTE

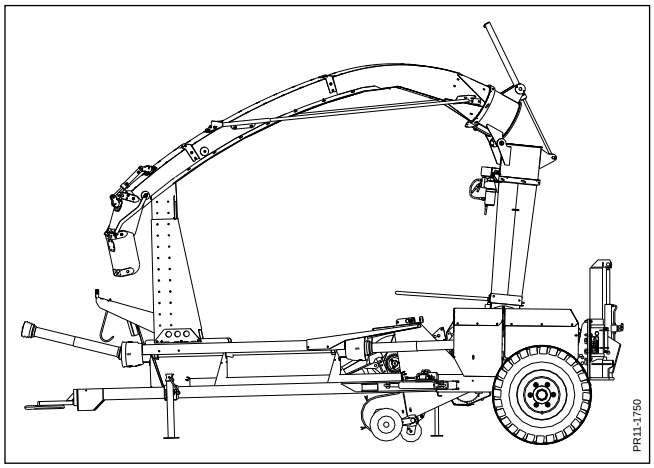


Fig. 3-14

Fig. 3-14 Machines with electro-hydraulic controls can be fitted with a chute that enables the loading of very tall trailers. This chute must be folded down during transport, so that it rests on a stand on the drawbar.
The chute is folded by means of a hydraulic cylinder, which is connected to a free valve on the hydraulic block. The cylinder is operated by one of the toggle switches at the front of the control box
The chute is operated electro-hydraulically with the joystick and toggle switch on the control box. Move the drawbar into the transport position, turn the chute into position above the stand and fold it down until it rests on the stand.

Danger: The chute is more than 4 m high. Be aware of high-voltage lines. Keep a safe distance from high voltage lines.

WARNING: Make sure that persons keep a safe distance from the machine when moving the chute. The hydraulic functions must be operated from the tractor.

IMPORTANT: Be careful not to hit the tractor cab.

IMPORTANT: Do not move the drawbar while the chute is resting on the stand.

IMPORTANT: Do not turn the chute while it is resting on the stand.

IMPORTANT: The chute must always rest on the stand during transport. This is partly because of the Road Traffic Act and also because the chute/delivery chute may get damaged, for instance if you drive fast on uneven ground.

CHUTE FOR PARALLEL OPERATION

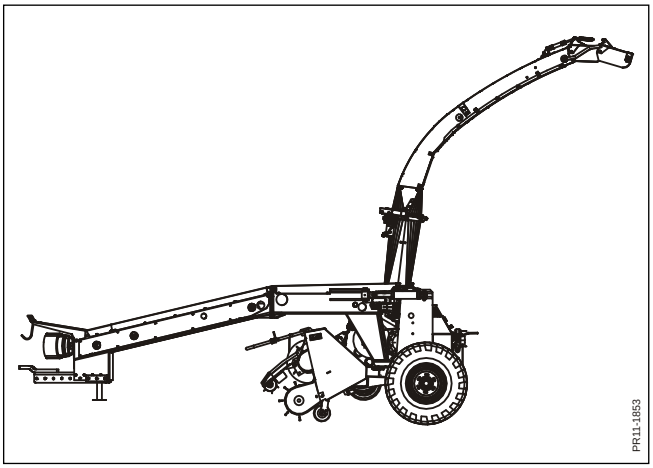


Fig. 3-15

Fig. 3-15 The machine can be fitted with a chute that has a transport height of 4.4 metres. This chute cannot be folded for transport.

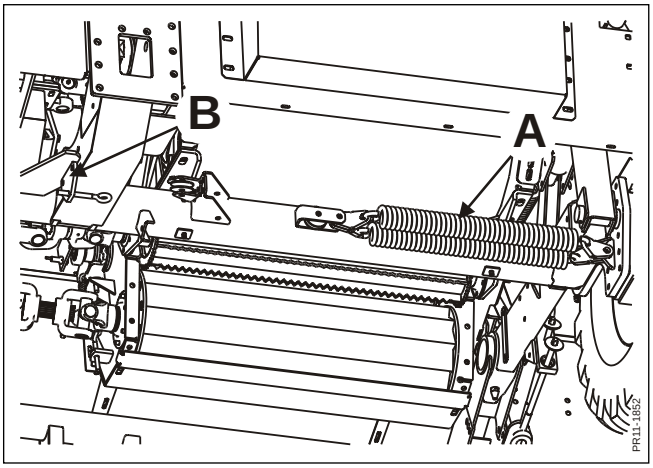


Fig. 3-16

Fig. 3-16 When this equipment is fitted, it is important that an extra spring **A** is fitted for chute relief, in order to compensate for the added weight of the chute. Bracket **B** must be fitted in the indicated position to ensure that the wire is not too short

CUTTING UNIT

Allow the cutting unit to rest on the supporting leg and wheel the machine to the cutting unit.

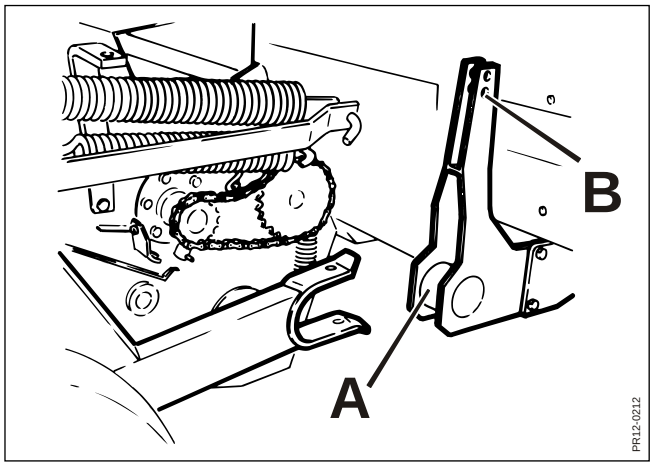


Fig. 3-17

Fig. 3-17 Check that the two catches **A** are at the same height. Insert the pins and secure with locking pins.
Attach the relief springs to the cutting unit at **B**.

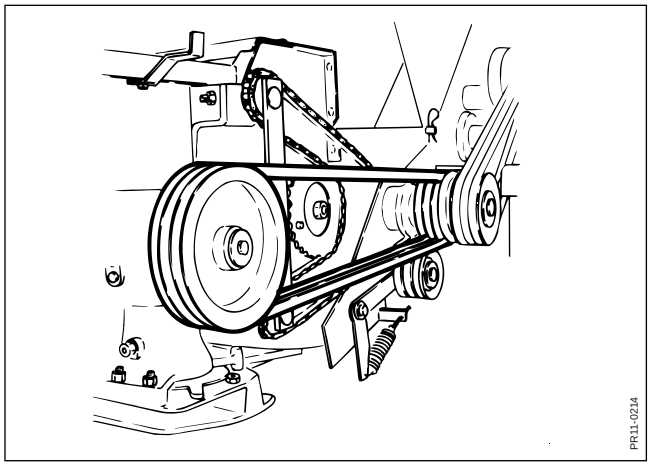


Fig. 3-18

Fig. 3-18 Fit the belt drive for the cutter bar on the cutting unit, and fit the chain drive for the reel and auger.

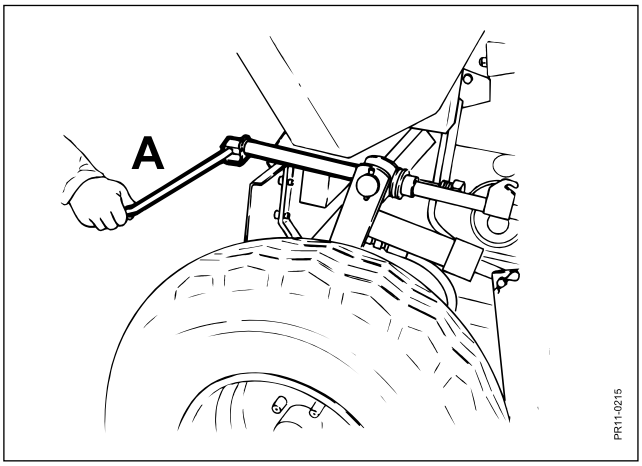


Fig. 3-19

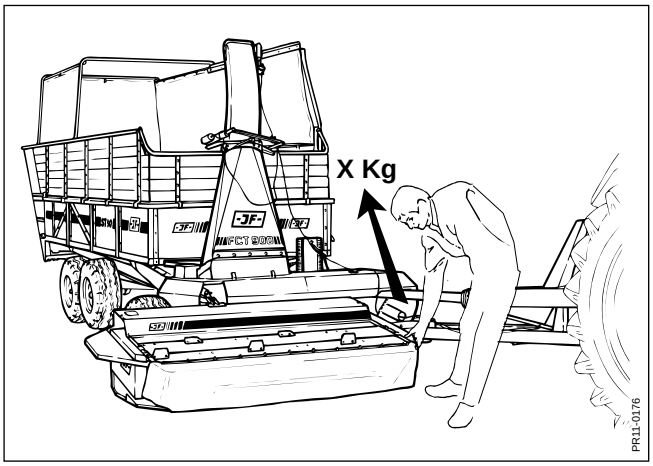


Fig. 3-20

Fig. 3-19 Tighten the relief springs using spindle **A** until the ground pressure from the cutting unit.

Fig. 3-20 is approx. 30 kg.

MAIZE UNIT

Allow the maize unit to rest on the supporting leg and wheel the machine to the maize unit.

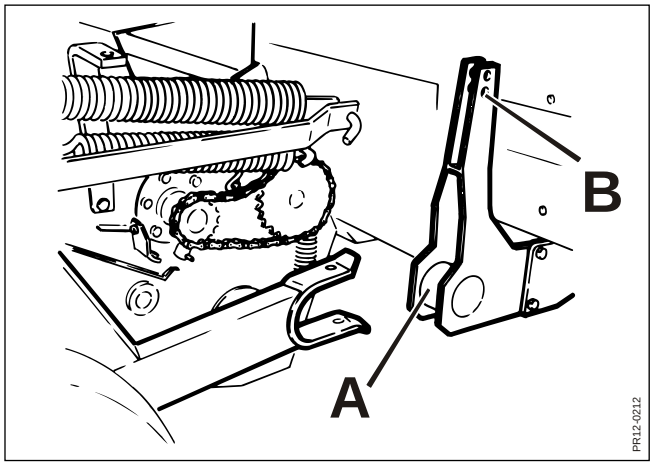


Fig. 3-21

Fig. 3-21 Check that the two catches **A** are at the same height. Insert the pins and secure with locking pins.
Attach the relief springs to the cutting unit at **B**.

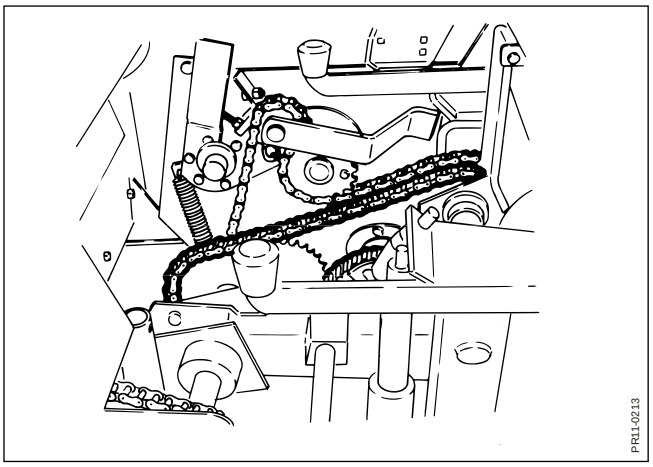


Fig. 3-22

Fig. 3-22 Mount the chain drive for the maize unit.

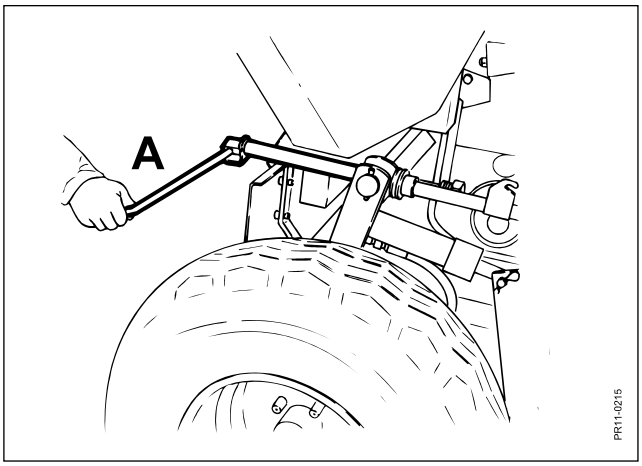


Fig. 3-19

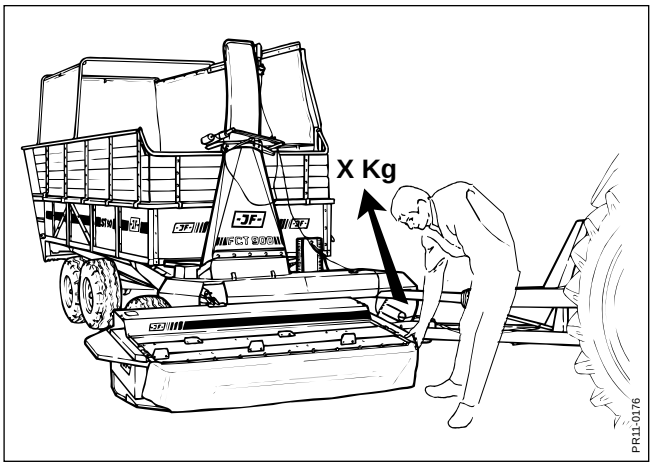


Fig. 3-20

Fig. 3-19 Tighten the relief springs using spindle **A** until the ground pressure from the maize unit is

Fig. 3-20 approx. 0 kg. (See also separate manual).

4. ADJUSTMENTS

PICK-UP

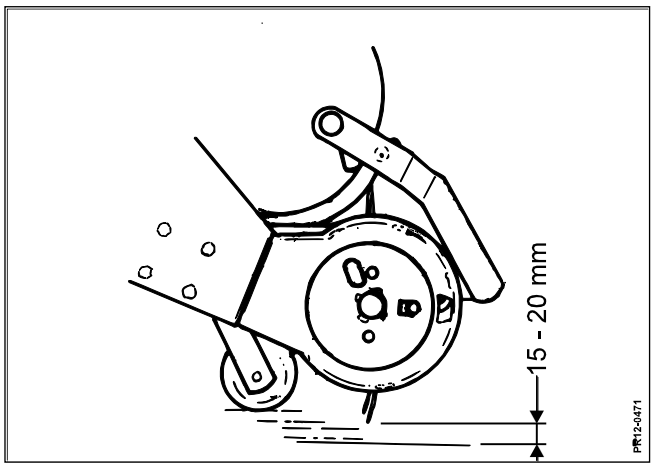


Fig. 4-1

The underside of the pick-up is equipped with steel supporting rollers, which are height-adjustable. You should keep the pick-up at such a height that the tines do not hit the ground and get earth into the crop, but so that the tines can also pick up the grass without waste.
Kongskilde recommends a distance between the pick-up tines and the ground of 15 to 20 mm.

The auger on the pick-up is equipped with a slip clutch. The slip clutch of the auger is adjusted so that it releases before the other friction clutches in the machine.
The highest capacity is obtained by operating at a forward speed where you drive without causing blockages in the auger. If there is a blockage around the auger, stop and force the crop out of the machine by using the reverse function. See also chapter 6 "DRIVING IN THE FIELD".
A continuous and even flow through the pick-up and auger is the best way to avoid blockages inside the machine, which can lead to long operational stoppages.

The operator should always have spare friction discs for the slip clutch on the auger are kept in the tractor. If this clutch has been in operation for a considerable period, the coating on the friction discs will become worn and will be unable to transmit sufficient torque. It may therefore be necessary to replace the friction discs, but remember these must be of the same quantity and quality.

OPENING THE ROTOR HOUSING

Fig. 4-2

Fig. 4-2 In order to open the rotor housing, the **standard chute** can be folded down. The chute is relieved with strong springs to make this easier.

DANGER: First ensure that no one other than the operator is in the vicinity.

WARNING: **The hydraulically folding chute** (accessory) is so heavy that the rotor housing cannot be opened manually for access to the blade rotor. Instead, please use the procedure described in Fig. 4-8 – Fig. 4-12.

WARNING: **The chute for parallel operation** (accessory) requires two people to open and close the rotor housing, as the weight of this exceeds the permitted amount.

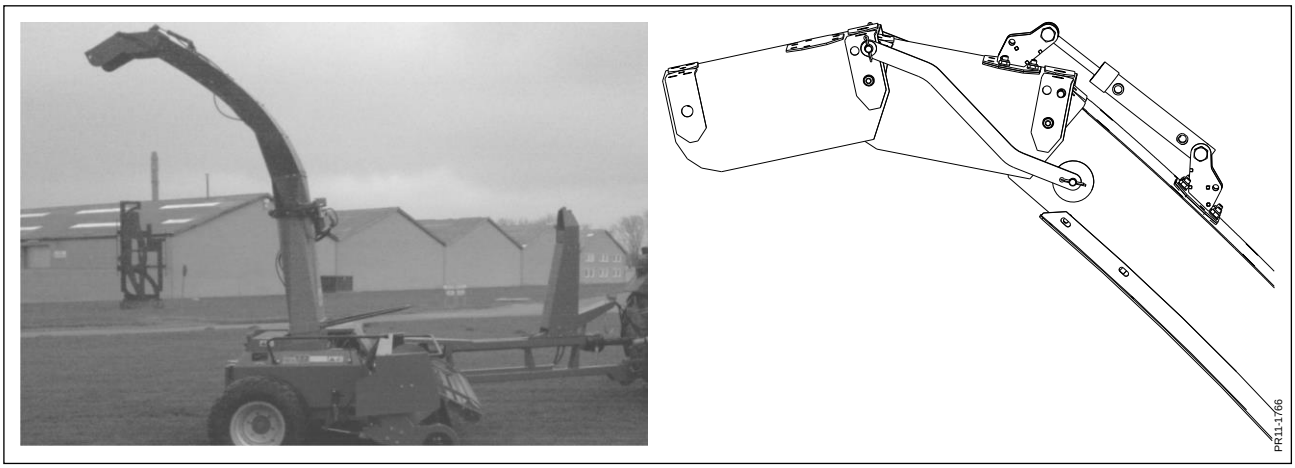


Fig. 4-3

Fig. 4-3 1) Turn the chute to the rear. Turn the deflectors to the centre of the operating range.

Fig. 4-4

Fig. 4-4 2) Open the guard above the rotor housing and the left-hand guard.

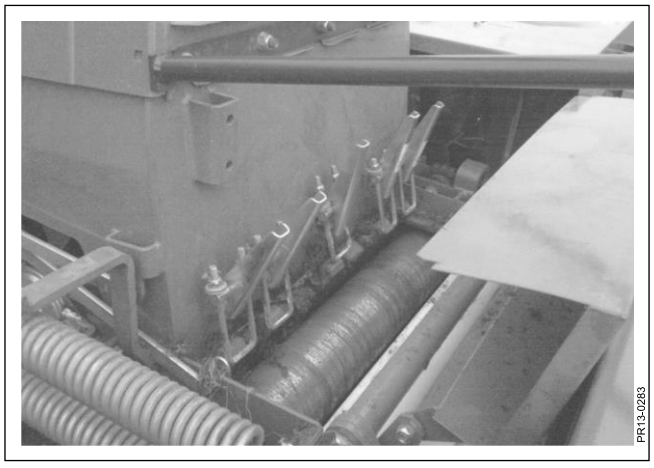


Fig. 4-5

Fig. 4-5 3) Open the lock clamps at the front of the rotor housing.

Fig. 4-6

Fig. 4-6 4) Tilt the chute to the rear and down using the handle, which will open the rotor housing.

5) Close the rotor housing following the same procedure in reverse order.

Fig. 4-7

Fig. 4-7 When closing the rotor housing, it is an advantage to lift the chute initially.

FOLDING CHUTE

WARNING: This chute is so heavy that the rotor housing cannot be opened manually for access to the blade rotor. Use the following procedure instead:

DANGER: First ensure that no one is in the vicinity. The hydraulic functions must be operated from the tractor.

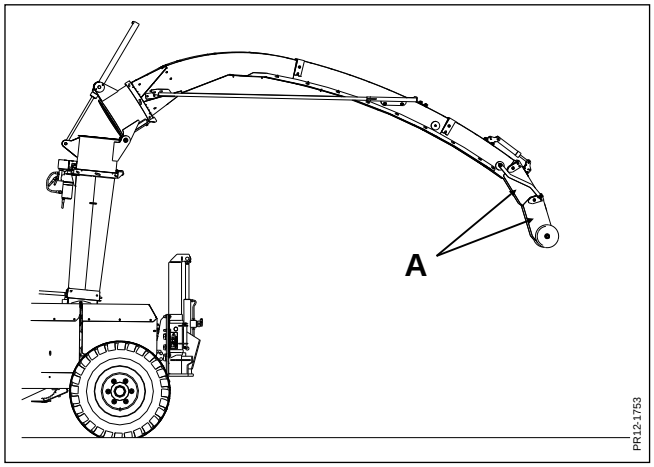


Fig. 4-8

Fig. 4-8 Turn the chute to the rear. Turn the deflectors **A** to the centre of the operating range.

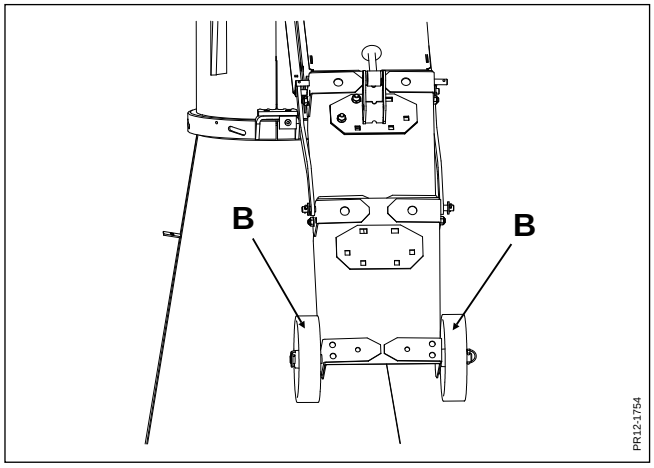


Fig. 4-9

Fig. 4-9 Fold down the chute to about 1.5 m above the ground and mount the wheels **B** using the pin and split pins.

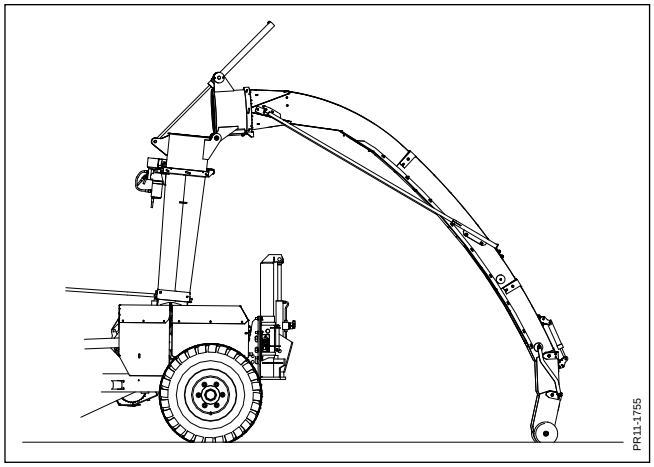


Fig. 4-10

Fig. 4-10 Fold down the chute until the wheels rest on the ground.

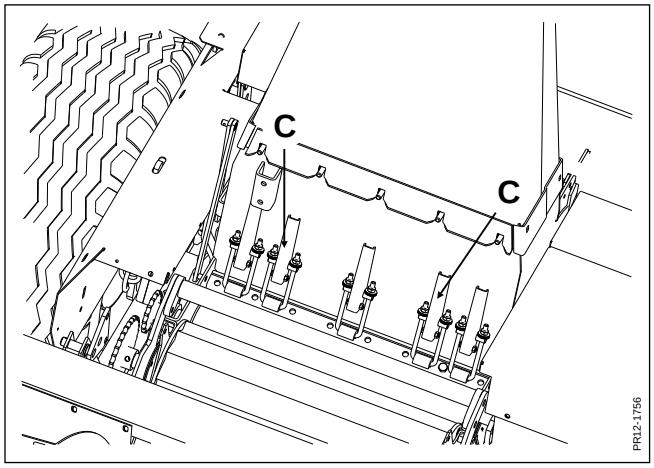


Fig. 4-11

Fig. 4-11 3) The lock clamps **C** at the front of the rotor housing can now be opened safely.

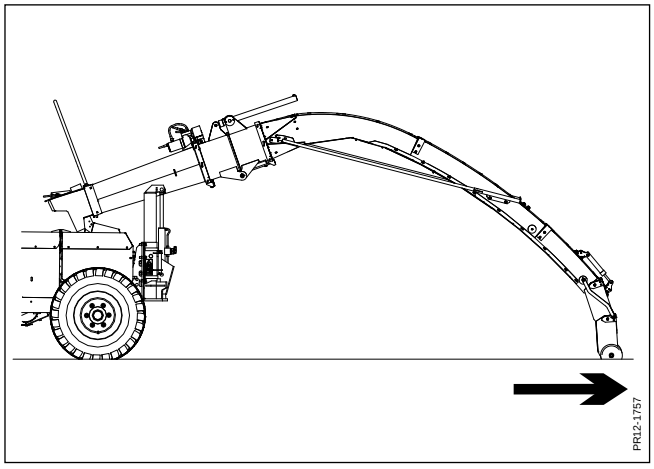


Fig. 4-12

Fig. 4-12 Now move the chute cylinder in direction "Chute closed", which opens the rotor housing.
Close the rotor housing following the same procedure in reverse order.

ROTOR AND ROLLER SECTION

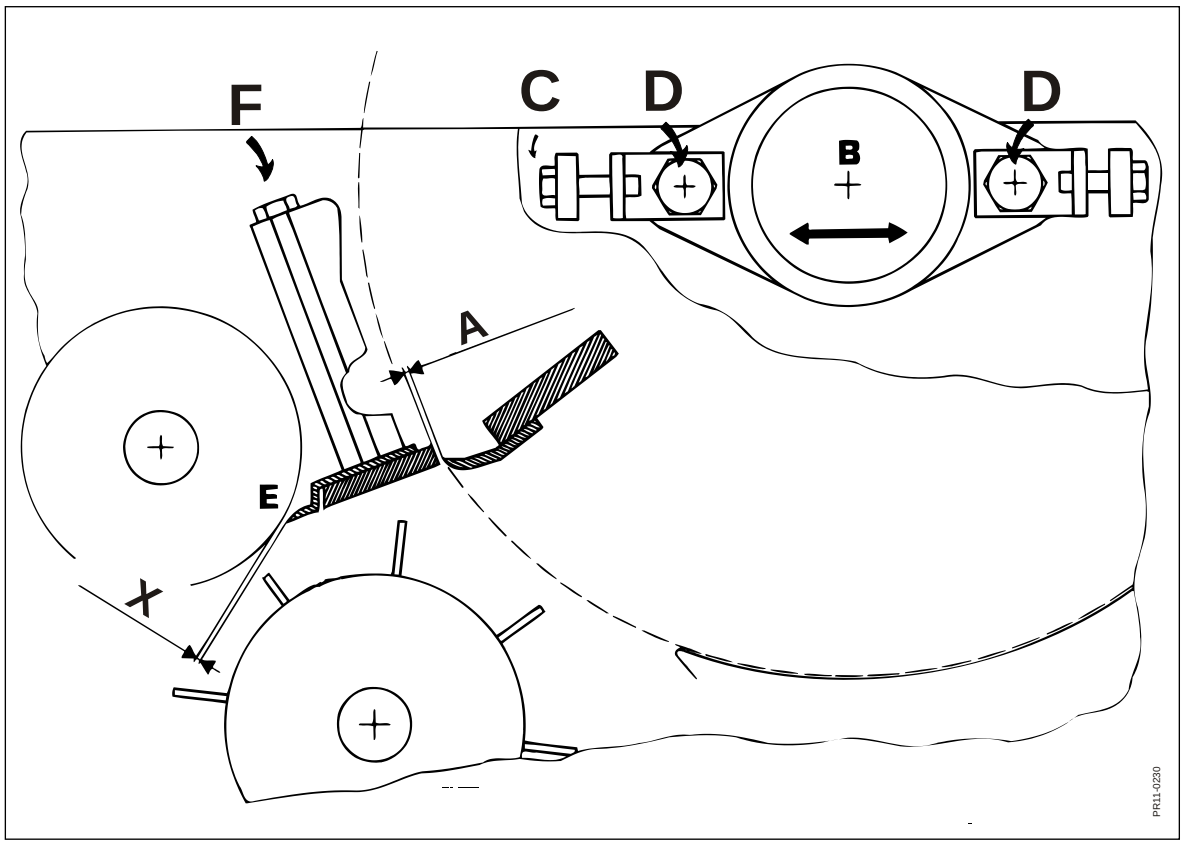


Fig. 4-13

Fig. 4-13 The distance **A** between the blades of the rotor and the shearbar must be checked regularly using the gauge supplied (distance measuring device). A distance of 0.5 mm should be aimed for. If it is necessary to adjust the distance, loosen the two bearing housings **B** and adjust using the screws **C**. When the distance has been checked, tighten the bolts **D** of the bearing housings using a torque wrench to 27 kgm (270 Nm).

The machine is equipped with a scraper for the smooth roller **E**. The scraper is fitted together with the reversible shearbar previously mentioned.
The scraper is placed as close to the smooth roller **E** as possible without touching it. Therefore, the distance between the scraper and the smooth roller should not exceed 0.5 mm. Then tighten the bolts **F** using a torque wrench to 10-12 kgm (100-120 Nm). **Incorrect adjustment of the scraper may result in overheating of the smooth roller and an operational stoppage.**

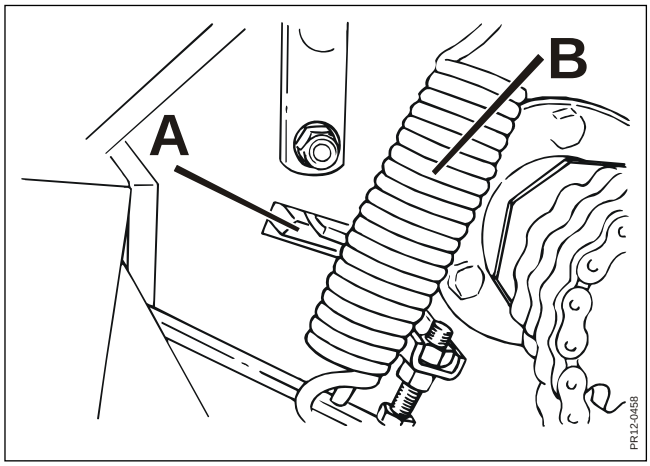


Fig. 4-14

Fig. 4-14 The scraper is dismantled by removing the screws **F** (on fig. 4-13), which also secure the shearbar, after which scraper and shearbar can be pulled out of the opening **A** in the side of the rotor housing. The spring **B** for the serrated roller must first be loosened or dismantled to allow sufficient space.

If the shearbar has been worn, it can be reversed to obtain a new sharp edge.

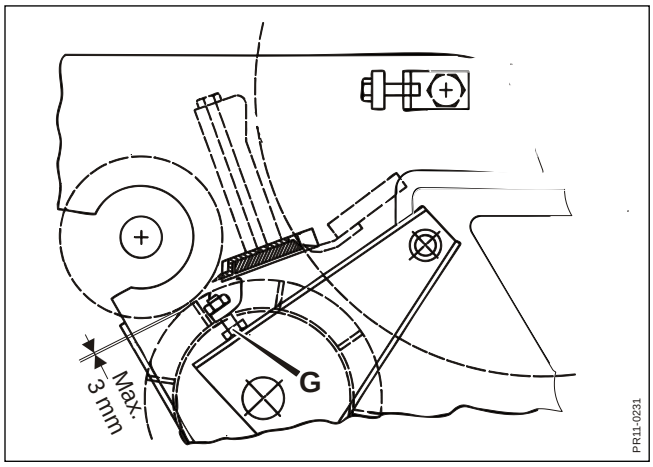


Fig. 4-15

Fig. 4-15 The distance between the smooth roller and the serrated roller should be a maximum of 3 mm. Adjustment may be made using the bolts **G** at both sides of the rotor housing.

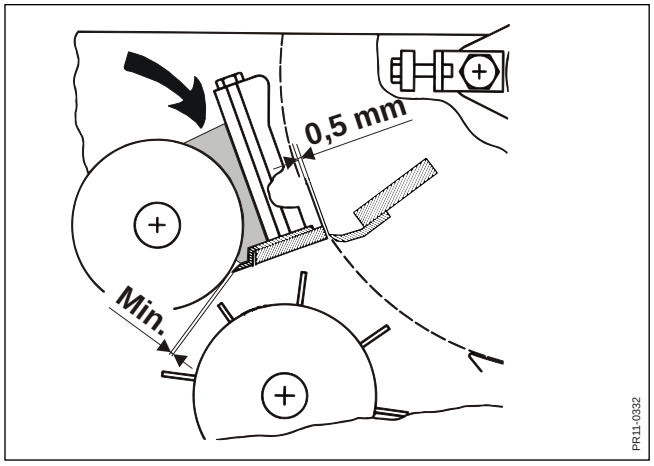


Fig. 4-16

Fig. 4-16 Crop substances (small particles) can accumulate in the shaded area under certain circumstances and become so compacted that it causes the transmission driving the rollers to overload.
Check the area after every eight hours of operation and remove any crop residues. Check, and if necessary adjust, the distance between scraper and smooth roller. The frequency of these checks may be reduced when the operator has become familiar with the machine under all conditions.

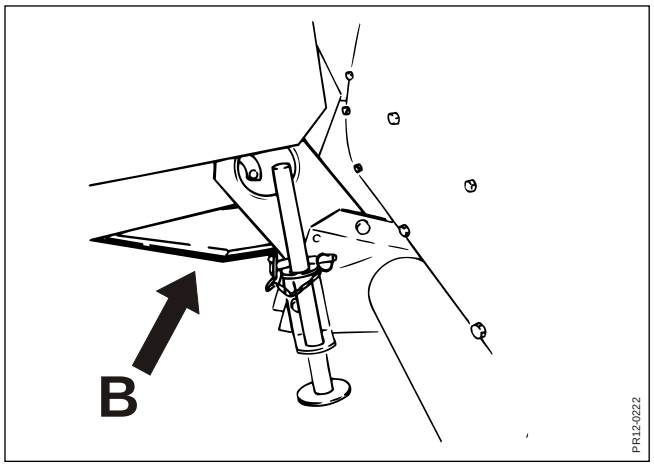


Fig. 4-17

Fig. 4-17 The bottom plate **B** may be mounted beneath the roller section as an additional piece of equipment. This must be mounted when operating in very dry and/or short crops to avoid waste under the rollers.

IMPORTANT: When operating under normal conditions, we recommend you operate without this bottom plate, as material can otherwise accumulate under the rollers, resulting in reduced capacity and unnecessary overloading of the transmission.

However, the bottom plate must be mounted when operating in crops where there is excessive waste beneath the rollers.

CUTTING LENGTHS

The cutting length depends on the following two factors:
1) Number of blades on the rotor where there is
- A six-row blade rotor giving 24 blades in total (Standard);
- An eight-row blade rotor giving 32 blades in total (Accessory).

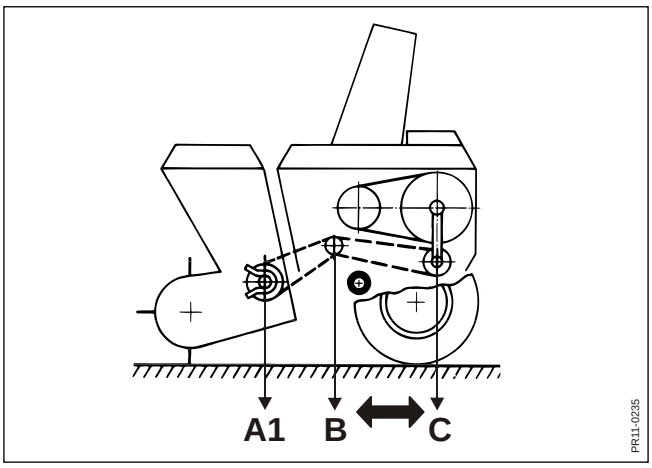


Fig. 4-18

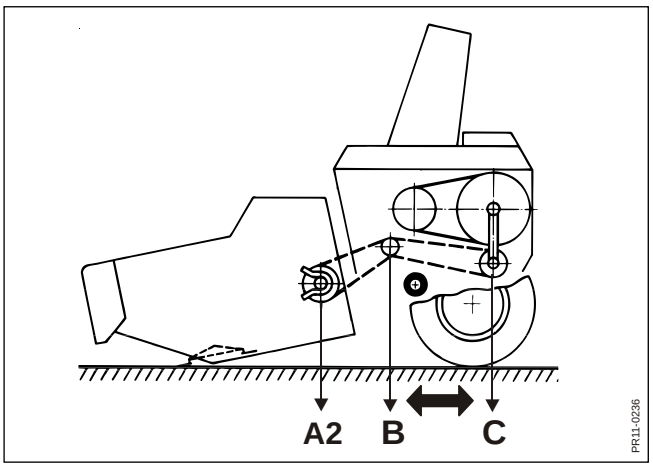


Fig. 4-19

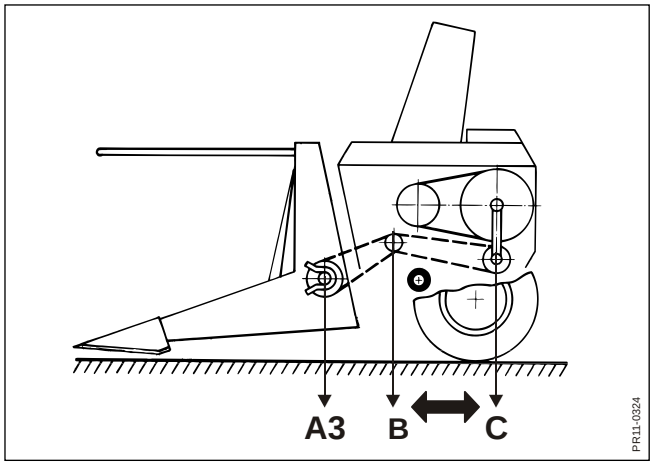


Fig. 4-20

Fig. 4-18
Fig. 4-19
Fig. 4-20

2) Feed intake speed, which is altered using the following sprocket wheels:

Sprocket wheel number	Number of teeth Z
2064-448X	14
2064-449A	18
2065-460X	21
2064-450A	25
2064-451A	30
2062-442X	36

The table below indicates the theoretical cutting length for various combinations of the above sprocket wheels:

		Fig. 4.18 for pick-up (Standard) Fig. 4.19 for cutter bar (Accessory) Fig. 4.20 for maize unit (Accessory)				
24 blades	**32 blades**	**A1**	**A2**	**A3**	**B**	**C**
5.7 mm.	4.2 mm.	18	14	30	30	14
7.2 mm.	5.4 mm.	18	14	30	30	18
*8.5 mm.	6.4 mm.	21	14	36	25	18
10.0 mm.	7.5 mm.	21	14	36	30	25
12.0 mm.	9.0 mm.	36	18	36	25	25
14.3 mm.	10.7 mm.	36	18		25	30
*16.6 mm.	12.4 mm.	36	18		18	25

*Standard cutting length

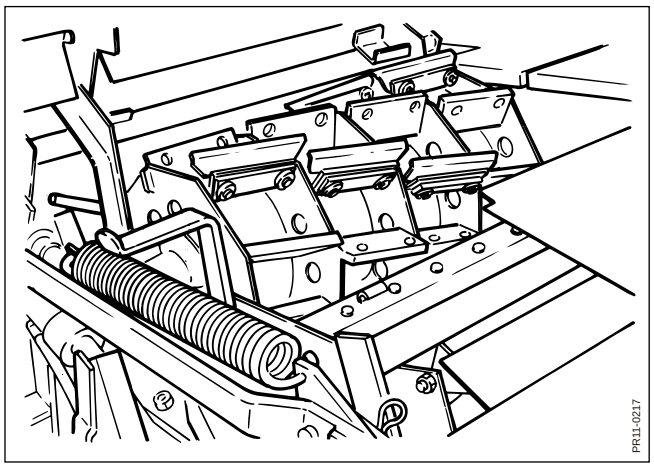


Fig. 4-21

Fig. 4-21 All cutting lengths can be doubled by removing every other row of blades.

REPLACEMENT AND ADJUSTMENT OF BLADES

WARNING: First, block the blade cylinder using a wooden wedge, as the sharp blades can easily damage a couple of fingers, particularly because it is difficult to stop the rotor if it is started accidentally by the operator.

When replacing a single blade, the blade must be placed at the same distance from the shearbar as the other blades. To ensure that the rotor is balanced, it may be necessary to also replace the opposite blade because used blades have different weights compared to new blades.
Even if there are no visible signs of damage to the blade bolts, they should always be replaced together with the blades because they may have been overloaded.

CAUTION: **Check the distance between the blade and the shearbar (0.5 mm) using the gauge supplied before the bolts are tightened.**

WARNING: **Only use original blade bolts when replacing. Tighten the blade bolts using a torque wrench to 400 Nm (40 kpm) or with the spanner supplied using approx. 40 kg leverage (corresponds to 400 Nm).**

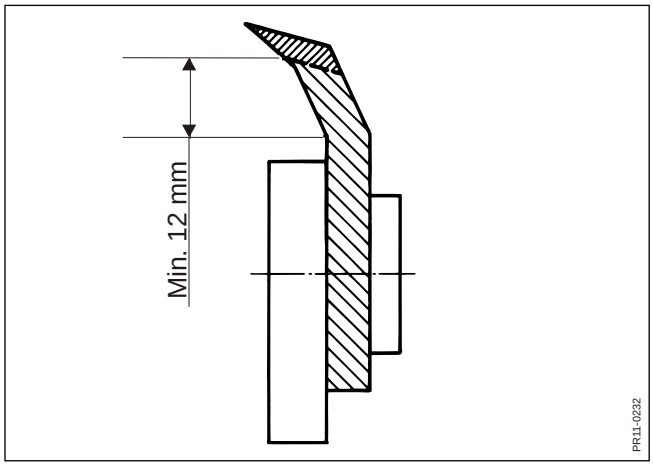


Fig. 4-22

Fig. 4-22 When the blades have been worn by a maximum of 8 mm or to the first bend, i.e. approx. 12 mm above the straight piece of the blade, they must be replaced.

DANGER: **When all blades on the rotor have become worn and the rotor has been adjusted towards the shearbar, it MUST be adjusted back again before new blades are fitted. Otherwise there is a risk that the new blades will collide with the shearbar when the rotor is turned.**

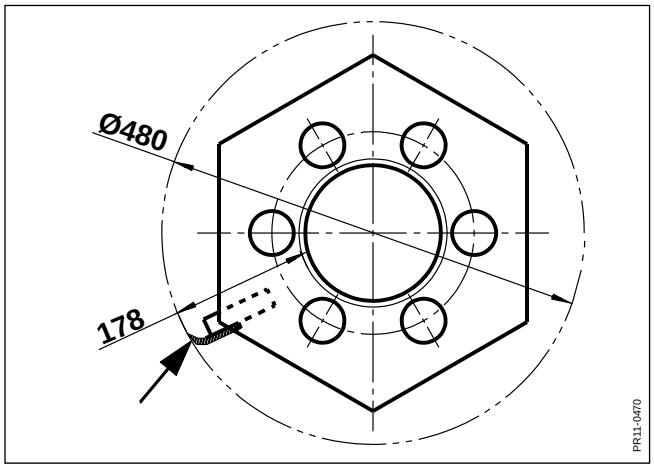


Fig. 4-23

Fig. 4-23 When fitting new blades, they must be pulled out so that the outer diameter on the rotor is 480 mm (from rotor tube to blade point = 178 mm).

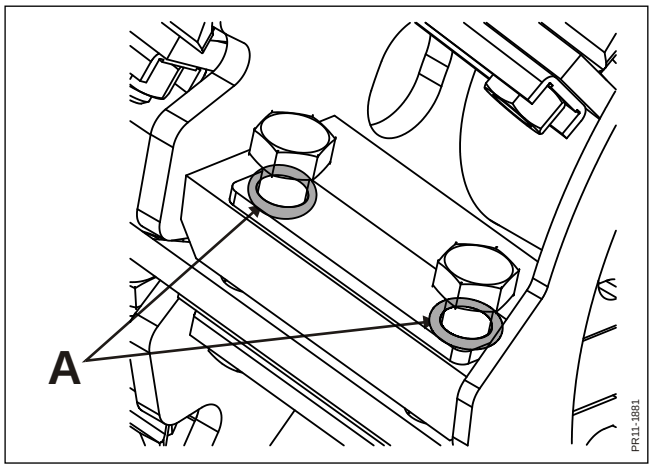


Fig. 4-24

Fig. 4-24 When replacing blade bolts, it is important to ensure that the area **A** under the bolt heads is greased.

GRINDING

Adjustment of the PTO drive shaft for the rotor to or from grinding position respectively must only take place **when the tractor and the machine have been stopped and the rotor has come to a complete standstill.** The rotor must only rotate when the grinding device is in grinding position.

Check before grinding:

- That the grindstone is undamaged;
- That the device slides backwards and forwards easily;
- That the device is parallel with the rotor.

The grinding device is supplied correctly adjusted from the factory and there is therefore normally no need for any adjustment, but adjustments may be made following dismantling using the oblong holes of the lateral guides. The bolts must be tightened firmly following adjustment.

The stone is fed by turning the handle for side movement.
The blades should normally be ground once a day - but excessive grinding should be avoided, as this will reduce the life of the blades.

CAUTION: **<u>Protect your eyes</u> – <u>always</u> wear safety glasses when grinding. The guard above the grinding device <u>must</u> be closed while grinding.**

GRINDING OPERATION

1. Lift the guard above the grinding device.

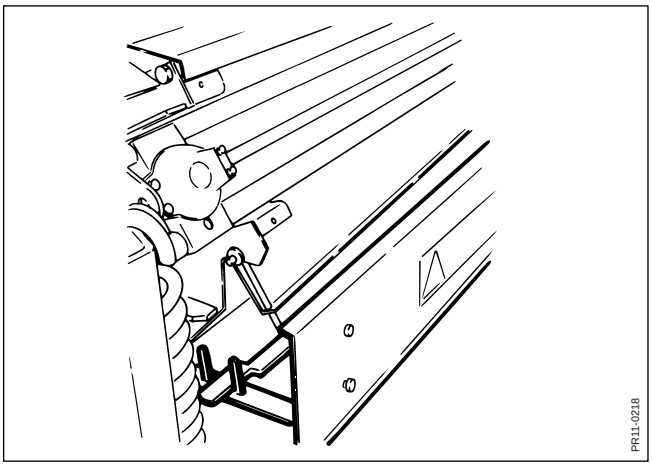


Fig. 4-25

Fig. 4-25 2. Lower the guard between the grinding device and the rotor so that there is free space between the device and the rotor.

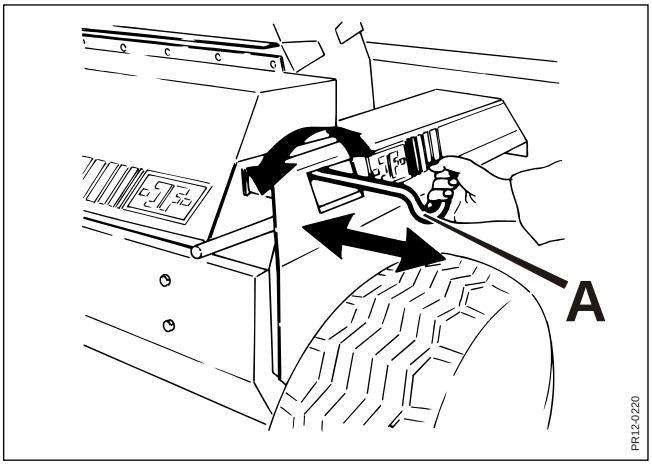


Fig. 4-26

Fig. 4-26 3. Adjust the grindstone so that there is 2-3 mm clearance between the stone and the blades by turning the handle **A**.

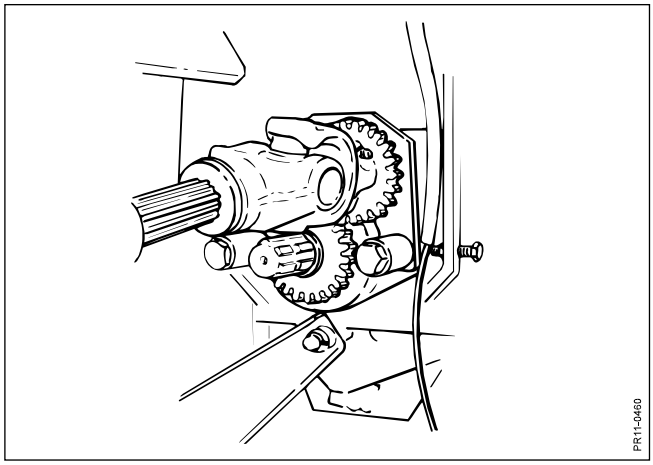


Fig. 4-27

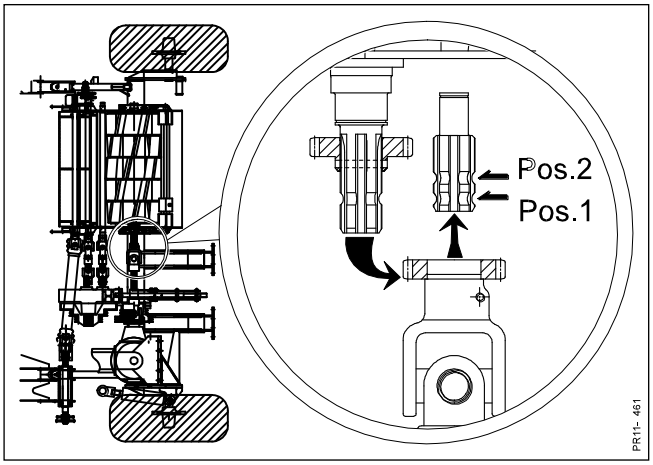


Fig. 4-28

Fig. 4-27 4. Mount the PTO drive shaft for the rotor on the free pin on the rotor housing. The
Fig. 4-28 PTO drive shaft must be fixed at position 2, where the gear wheels are engaged and the rotor will rotate in the opposite direction.

5 . Close all guards.

6. Start the tractor and maintain the RPM at slightly above idling speed.

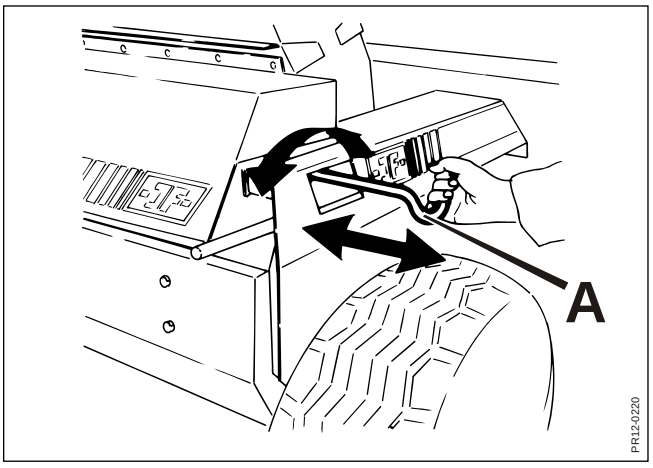


Fig. 4-29

Fig. 4-29 7. Feed carefully by turning the handle **A** until the stone just touches the blades. Move the stone in a slow, sliding movement across the whole rotor and back again. Feed a little more and repeat the movement across the full width of the rotor so that the blades across the entire width of the rotor are ground.

8. Push the handle in all the way towards the machine after grinding. Stop the tractor and lift the guard between the device and the rotor into the correct position once the rotor has come to a standstill. The PTO drive shaft for the rotor must be moved back to the pin for the normal direction of rotation of the rotor.

WARNING: REMEMBER, only grind with the guards CLOSED.

In the interests of safety, check the distance between blades and shearbars again using the gauge. See the section "Rotor and roller section".
Check the wear on the grindstone regularly. If the stone has been worn down to a thickness of 10 mm, it must be replaced.

ROUGH GRINDING

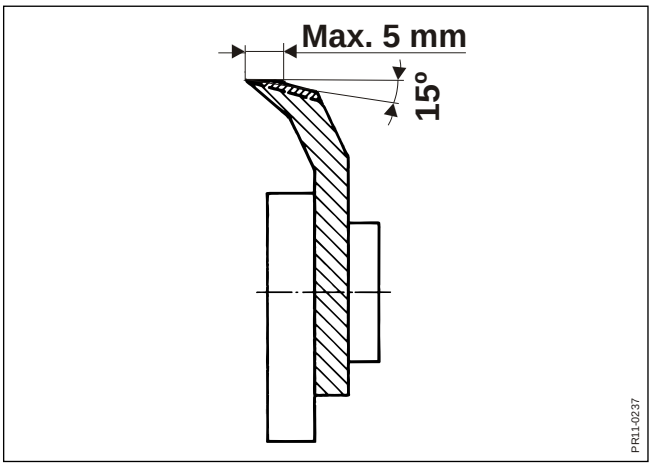


Fig. 4-30

Fig. 4-30 To avoid unnecessary power consumption and excessive wear of the grindstone when operating the harvester, it is necessary to carry out a rough grinding or adjustment of the blades when the cutting edge is 5 mm wide or more. Grind the rear edge to an angle of approx. 15º.

Rough grinding can be performed using an angle grinder with the rotor and blades positioned in the machine.

CAUTION: Be careful not to grind down the cutting edge (front edge) of the blades.
Block the rotor with a solid object (a piece of wood or similar) during rough grinding to ensure that the rotor does not move during this operation.

FEED IN AND REVERSING, ACTUATOR CONTROL

The reverse function **can** be used at full RPM (1,000 RPM on the PTO), but we recommend you decrease the RPM to reduce the strain on the machine as much as possible and reduce the wear of the rubber disc.

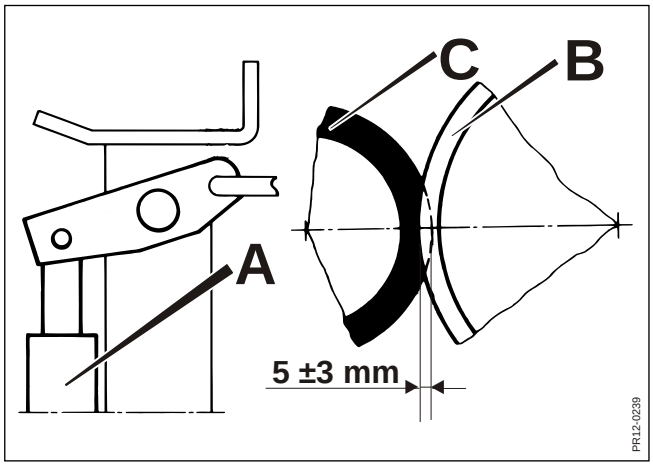


Fig. 4-31

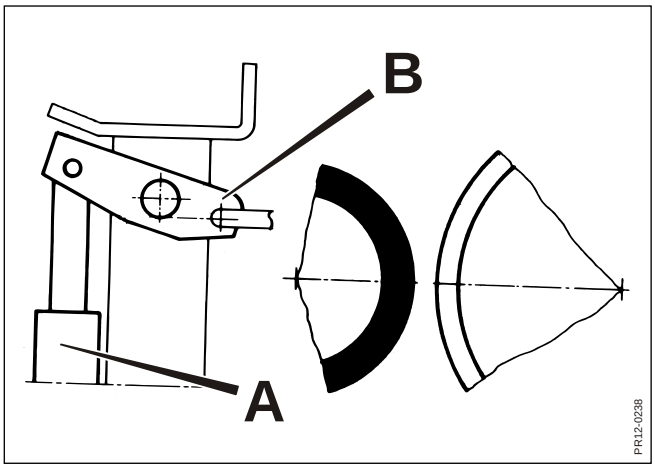


Fig. 4-32

Fig. 4-31 The overlap between the steel friction disk **B** and rubber disk **C** must be 5±3 mm with a new rubber disk. If the rubber disk becomes worn, the overlap will be adjusted automatically by the electric motor **A**, as this maintains maximum pressure and thereby ensures a constant pressure between the two components **B** and **C**.

CAUTION: **Only use the reverse function for a short period of time on each occasion to ensure the correct functioning and long life of the rubber disc.**

Fig. 4-32 The tensioning of the V-belt also takes place automatically. The is determined by the electric motor **A**, which always pulls with the same constant power.

IMPORTANT: **If the tensioning of the belt drive is incorrect, this may be because the tilt bracket B that transfers the correct power from the electric motor may be too tight or has become locked. Dismantle the components and clean them, and the tilt bracket should be intact again.**

FEED IN AND REVERSING, ELECTRO-HYDRAULIC CONTROL

The reverse function **can** be used at full RPM (1,000 RPM on the PTO), but we recommend you decrease the RPM to reduce the strain on the machine as much as possible and reduce the wear of the rubber disc.

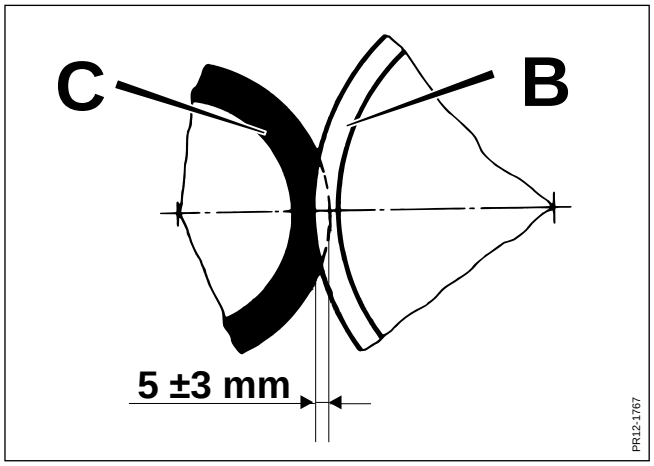


Fig. 4-33

Fig. 4-33 The overlap between the steel friction disk and the rubber disk is 5±3 mm during reversing. This must not be adjusted for wear because the cylinder always maintains a constant pressure determined by the pressure relief valve.

CAUTION: Only use the reverse function for a short period of time on each occasion to ensure the correct functioning and long life of the rubber disc.

The pick-up and feed rollers are powered by the belt drive.

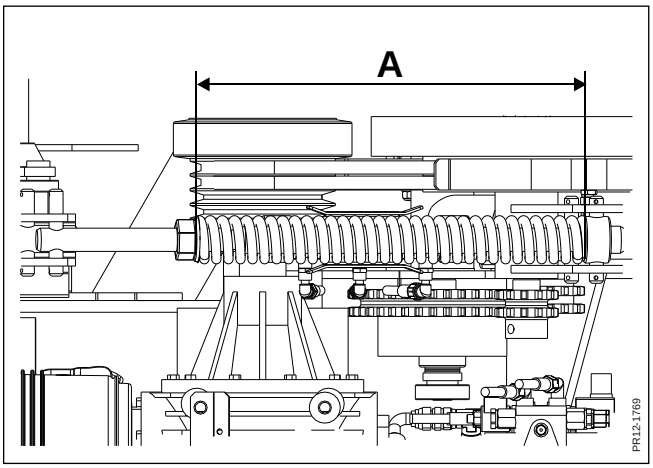


Fig. 4-34

Fig. 4-34 The tightening of the belt drive is determined by the spring which is tightened to the length **"A" = 480mm**, when the reverse function is in "feed in".

NEUTRAL POSITION

This neutral position is between the reverse function where the rubber disc and the friction disc are in mesh (fig. 4-33), and normal operating position where the belt drive is tightened by the spring and drives the feed intake (fig. 4-34).

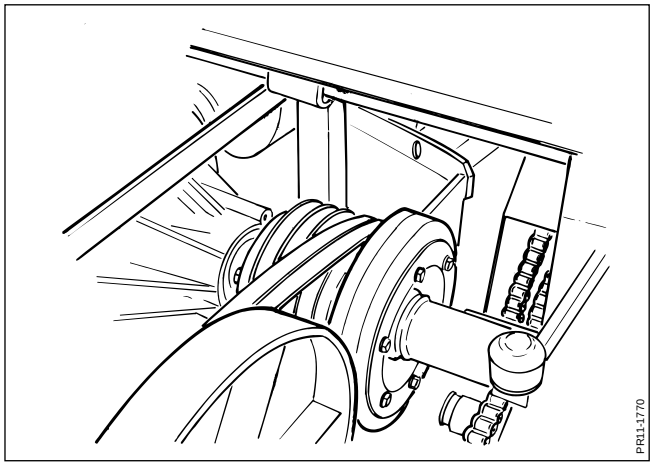


Fig. 4-35

Fig. 4-35 In neutral position the belt drive for the feed intake section is slackened so that it does not move. **This position should not be considered a standstill position for the machine, partly because the blade rotor is still able to rotate.** In addition, an empty, smooth-running feed intake can still be driven by the slight friction from the slackened belts.

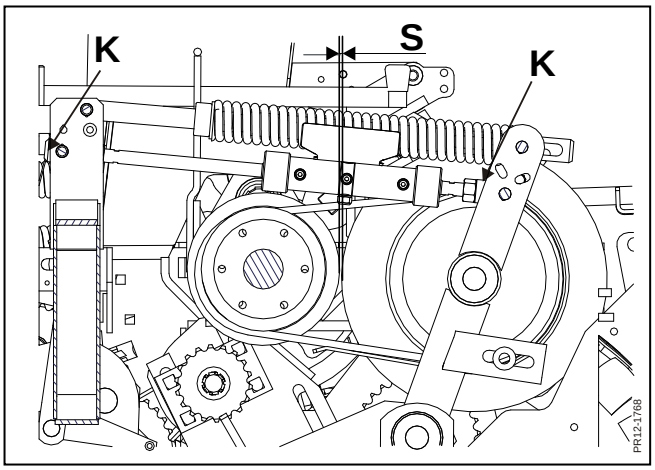


Fig. 4-36

Fig. 4-36 In neutral position, with a new rubber disc, the distance between the rubber disc and the steel friction disc should be approx. **S** = 2-3 mm. Adjustment of the neutral position is done at the ends **K** of the cylinder. It is not necessary to adjust for wear on the rubber disk.
The cylinder will be without pressure when the reserve is set to "feed in".

WARNING: **Do not approach the machine when the feed intake is in neutral position and the rotor is rotating. Neutral position does not guarantee that the feed intake will not start.**

5. METAL DETECTOR (MD)

The FCT 1060 MD is fitted with a metal detector (MD).

The purpose of the metal detector is to protect the machine from damage caused by pieces of metal in the crop and to ensure that no metal gets in the chopped material, which could cause disease amongst animals that subsequently eat the fodder.

The machine is in principle constructed in the same way as the standard machine, but it is equipped with a system which can detect (register) magnetic metal in the feed intake section, and immediately stops pick-up, auger and feed intake if metal in the crop enters the front rollers.

MAGNETIC TUB (METAL SENSOR)

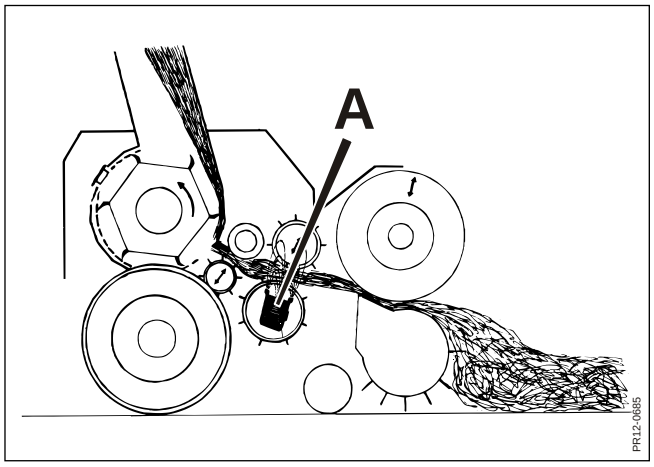


Fig. 5-1

Fig. 5-1 The machine is equipped with a magnetic tub **A** (sensor) which is mounted in the lower front feed roller. The function of the magnetic tub is to detect magnetic metal (metal containing iron).

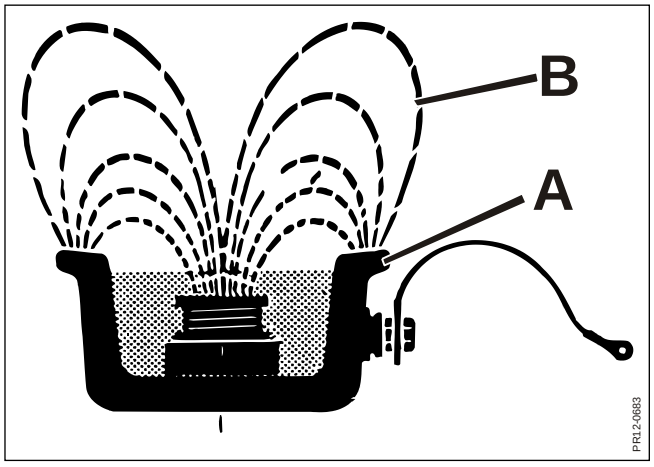


Fig. 5-2

Fig. 5-2 The magnetic tub **A** has an upward magnetic field **B**. This magnetic field covers the entire opening between the front two rollers.

The reliability with which the detector registers the metal is approximately 95%. However, several factors influence the reliability of the sensor:

- Size of the metal object;
- Shape of the metal object;
- Position of the metal in the feed intake section;
- Cutting length and thus the feed intake speed;
- Distance between the pawl and the ratchet wheel in the stop system.

DETECTION OF METAL

When a magnetic piece of metal passes the magnetic tub, a voltage is induced which is immediately detected by the microprocessor in the control unit, which then triggers a programmed stop sequence.

STOPPING THE FEED INTAKE SECTION

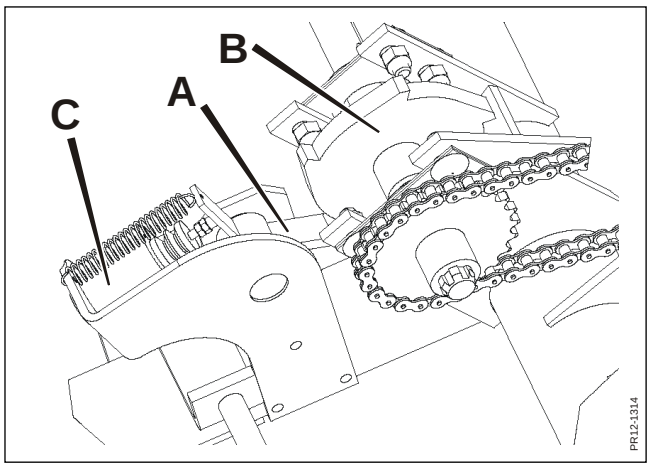


Fig. 5-3

Fig. 5-3 When the metal has been detected, a signal will be sent which causes the voltage on the magnetic coil **C** to be disconnected. This then activates pawl **A**, which then engages with the ratchet wheel **B** and immediately blocks the feed intake. The reverse function simultaneously goes to neutral position.

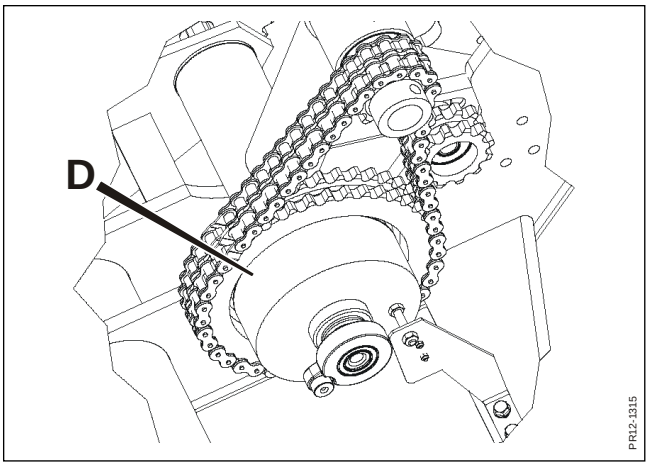


Fig. 5-4

Fig. 5-4 As the feed intake is blocked faster than the reverse function switches to neutral, the torque in the transmission is increased immediately and the friction clutch **D** is released briefly. This slips until the reverse has disengaged the belt transmission.
The reverse slackens the V-belts, and the drive of the feed intake is deactivated. This can be considered as the neutral gear of the feed intake.
This means that the feed intake automatically switches to neutral when metal is detected, even though the switch on the control box is in the feed intake position.
Naturally, the system can only operate if there is constant oil flow to the machine and the control unit is switched on.

This neutral position is necessary for any disengagement of the friction clutch, as the friction clutch would otherwise overheat, with a risk of damage to the friction coating and the need for replacement. Damage to the friction coating may become apparent in the form of excessively frequent disengagement.

WARNING: **Do not approach the machine when the feed intake is in neutral position and the rotor is rotating. Neutral position does not guarantee that the feed intake will not start.**

RESETTING THE METAL DETECTOR

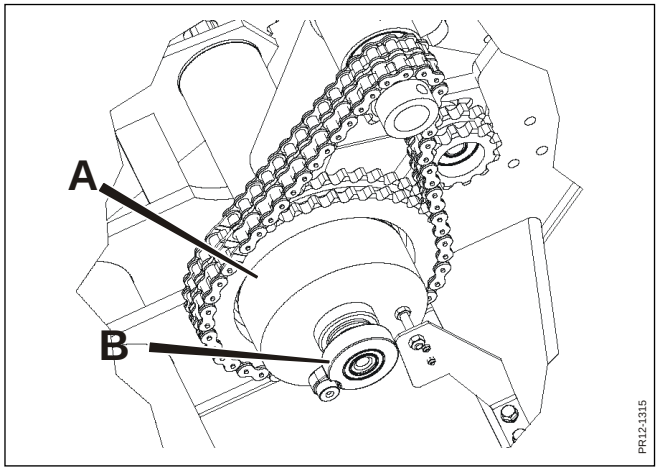


Fig. 5-5

Fig. 5-5 To safeguard against faulty operation following metal detection and ensure that any metal has been removed before restarting, the electronics do not permit a normal feed intake function until the feed intake has reversed briefly.
The magnetically operated switch **B** is operated through clutch **A** during the reversing. This sends a signal to the microprocessor that reversing has been completed and the stop system with the pawl will be reset.
Note: You must reverse for a minimum of two seconds before the control unit registers it and feed intake is permitted.

CAUTION: **When the machine has reversed following metal detection, stop the tractor and check the area in front of the feed roller for any pieces of metal and remove them.**
If nothing is found, there is a risk that metal will again enter the feed intake together with the crop when the machine is restarted.
Always pay particular attention when restarting the machine after metal detection.

MD CONTROL

Fig. 5-6

Fig. 5-6 The control unit **A** located under the left rear guard contains the necessary controls for the metal detector It receives a signal from the magnetic tub, and in cases where magnetic metal is detected, it sends a signal to the coil to block the feed intake and to the reverse function to switch to the neutral position. It also verifies whether the feed intake has reversed via the magnetically operated switch. The metal detector is active when the machine is started and requires reversing before it can operate normally. See Fig. 6-7 "Driving in the field, MD control".
The metal detector turns on each time the control unit is switched on.

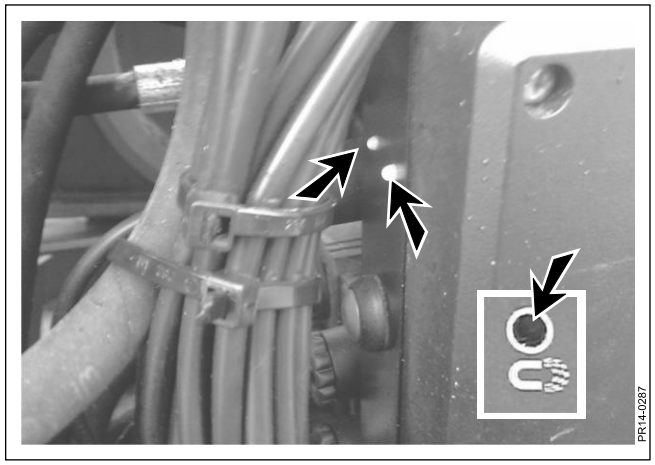


Fig. 5-7

Fig. 5-7 When the control unit is switched on and the metal detector is on, the two control lights on the MD control unit and the light on the control box will be illuminated.

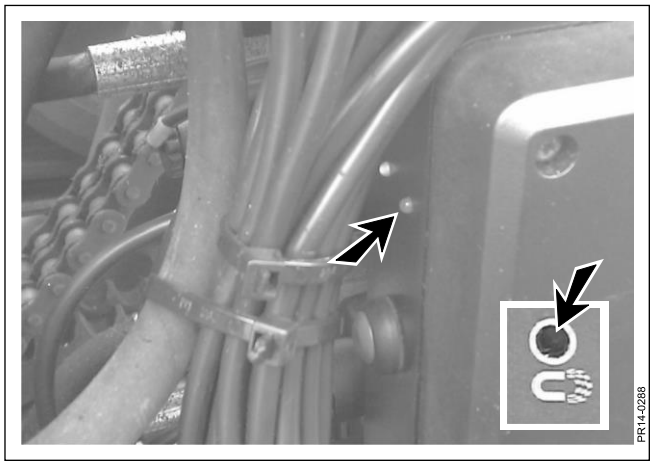


Fig. 5-8

Fig. 5-8 The metal detector is turned on and off by pushing the button on the MD control unit. It is turned **off** by holding the button down for about five seconds. This extinguishes the yellow control light on the MD control unit and the light on the control box. One single push on the button turns the metal detector on again. The metal detector must be ready in order that it can be turned off. The red light on the control box must either be illuminated or be flashing.
Although the metal detector may have been turned off, it always turns on when the machine starts when the control unit has been turned off on the control box or when the power supply has been interrupted. This ensures that you do not work without the metal detector active unless you intend to. If you work without the metal detector, you risk metal entering the machine, causing damage and contamination of the crop.

WARNING: Do not approach the machine when the feed intake is in neutral position and the rotor is rotating. Neutral position does not guarantee that the feed intake will not start.

The MD control unit controls the reverse system in the following situations:

- When the system is turned on: The reverse moves to neutral position and cannot move to feed intake until the machine has reversed for two seconds.

- When metal is detected:
- (If turned on) The reverse moves to neutral position and cannot move to feed intake until the machine has reversed for two seconds.

ADJUSTMENTS

RATCHET STOP

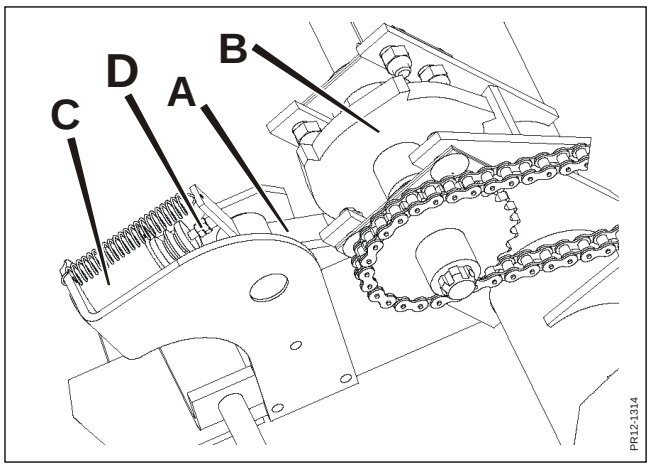


Fig. 5-9

Fig. 5-9 Machines with a metal detector have an integrated stop system in the transmission for the feed intake system. The system consists of a pawl **A** and a ratchet wheel **B** and is activated by a coil **C**. The system is activated when metal is detected in the feed intake section and the coil gets a signal from the electronics which brings the pawl **A** in mesh with the ratchet wheel **B** and the feed intake section is blocked

WARNING: **The distance between the pawl and the wheel MUST be 1-2 mm because the distance determines the response time of the system in the event of metal detection**
Too great a distance may mean that a metal object can reach the blade rotor before the feed intake stops and cause serious damage to the harvester.

The distance between pawl and wheel has been supplied correctly adjusted from the factory. If readjustment is necessary, this is done using adjusting screw **D** above the coil **C**.

FAULT FINDING FOR MD

Chapter 12 "FAULT FINDING" at the back of this manual contains a table for fault finding on the MD system. The table contains the most common faults, possible causes and remedies.

6. OPERATION IN THE FIELD

GENERAL CONSIDERATIONS

Adjust the machine to the maximum cutting length acceptable for the crop concerned, This will reduce the stress in the feed intake section and the transmission and increase the possibility of the machine operating continuously without blockages. Be aware that setting the cutting length too short increases the power consumption and also the wear on the blades per crop volume.
Always use sharp blades and a correctly adjusted shearbar.

Under difficult conditions we recommend you to carry spare friction discs for the slip clutch on the auger because these wear each time the clutch is activated. After a certain period, the power that can be transmitted is reduced to such an extent that the capacity of the machine is reduced and the friction discs must be replaced. When replacing discs, remember that they must be of the same quantity and quality so that the desired torque can be applied. This also helps to maximise life.

SWATHING BEFORE CHOPPING

If it is possible to influence the swath prior to chopping, it is important to emphasise that regular and even swaths are optimal for the subsequent chopping and will spare the operator considerable effort.

The machine is equipped with a wide pick-up and, if you want to utilise the capacity of the machine through double swathing, it is a good idea to place two swaths beside each other within the width of the pick-up, instead of raking the swaths. Raked swaths are often irregular and the crop can become entangled, which can cause blockages in the auger and/or feed intake section.
Double swaths are therefore ideal for a regular flow of crop through the machine.

TRANSPORT POSITION

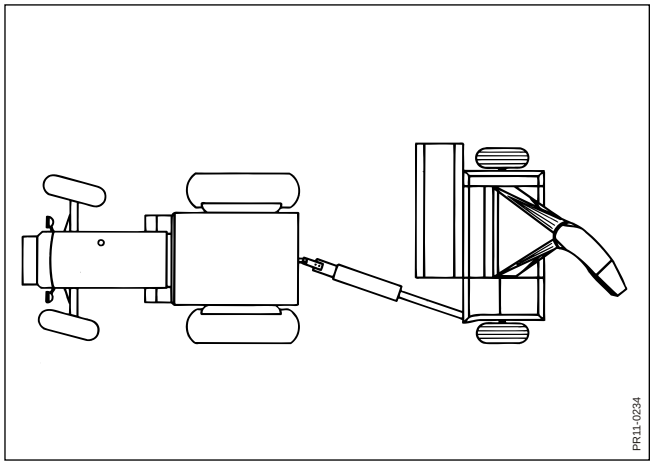


Fig. 6-1

Fig. 6-1 In the transport position, the machine must be placed behind the tractor so that it follows the tractor. When driving on public roads, the delivery chute must be in a position where it does not increase the transport width of the machine. If a folding chute is fitted, it must be folded down to rest on the stand on the drawbar.

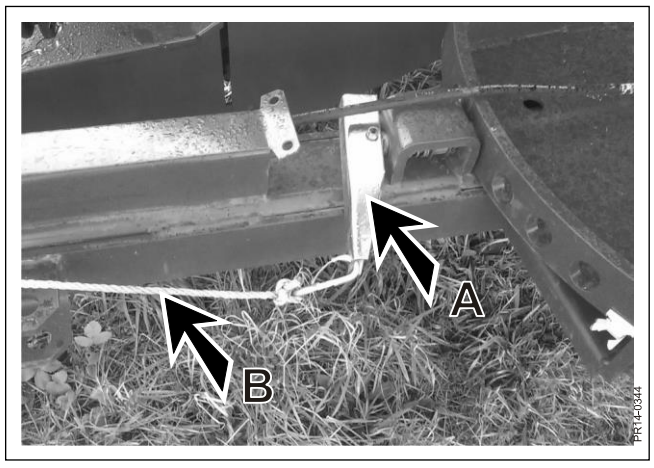


Fig. 6-2

Fig. 6-2 The machine may have a mechanical conversion mechanism. The pin **A** locking the stand must be removed using cord **B** leading to the driver's seat, and the machine will swing into the desired position.

NOTE: **Ensure** that the pin is fully engaged before driving on public roads and that any lighting for use on public roads is connected.

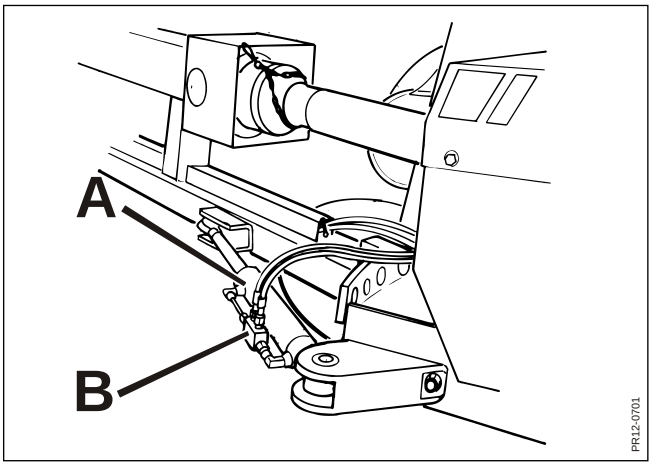


Fig. 6-3

Fig. 6-3 The machine may be fitted with equipment for hydraulic transport adjustment where the drawbar can be placed in transport position using hydraulic cylinder **A**. The cylinder is fitted with a safety valve B, which ensures that the machine stays in transport position in the event that a hose becomes damaged.

Once the machine has been prepared for transport, the controls must be turned off using the button on the side of the control box, and the oil supply to the machine must be disconnected. This prevents faulty operation during transport.

OPERATING POSITION

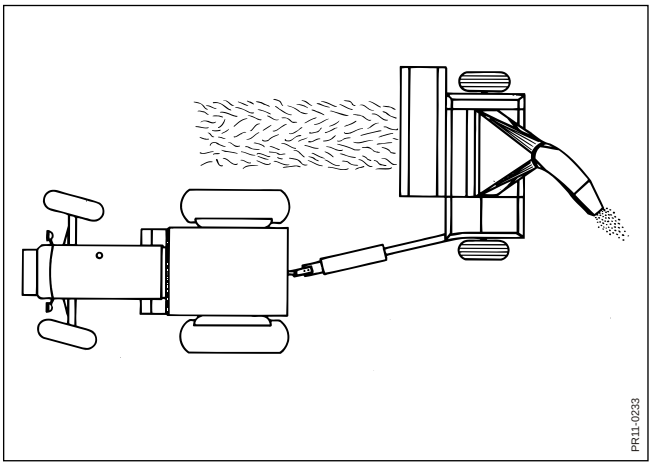


Fig. 6-4

Fig. 6-4 For mechanical conversion, the pin locking the stand must be removed using the cord leading to the driver's seat, and the machine will swing out to the right to the desired position.

The drawbar can be continuously adjusted with hydraulic transport conversion. The machine can operate in all positions.
The position of the drawbar can be changed during operation in the field with hydraulic transport conversion to avoid obstacles, etc.
It is recommended that the drawbar be placed in the transport position in order to reduce the angle of the PTO shaft before turning sharply to the right.

STARTING AND OPERATING IN THE FIELD

There are differences between the starting procedures for a machine with actuator control and a machine with valve block control. There are also differences for valve block control in the case of a machine with a metal detector (MD) being started. On MD machines, the electronics and the metal detector must be activated and checked before starting. The special procedures when starting MD machines are therefore described first. Most of the procedures when starting and working in the field are in principle the same for the two models and, in cases where there are differences, the descriptions are divided into "*actuator control*", "*Electro-hydraulic control*" and "*MD control*".

STARING PROCEDURE FOR ACTUATOR CONTROL

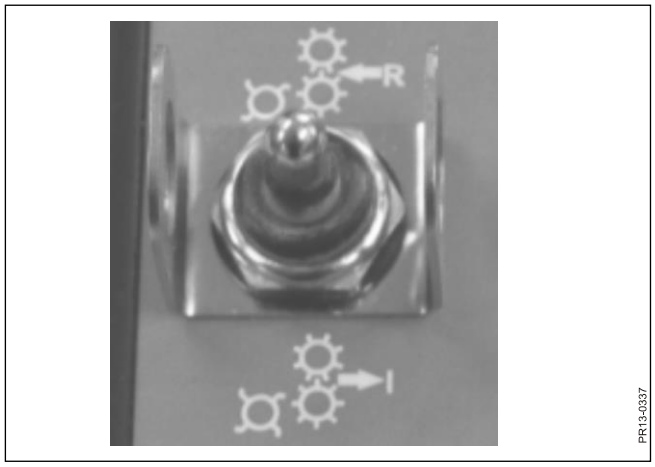


Fig. 6-5

Fig. 6-5 Ensure that the actuator is entirely in feed to ensure the correct belt tensioning. Move the toggle switch to the rear.

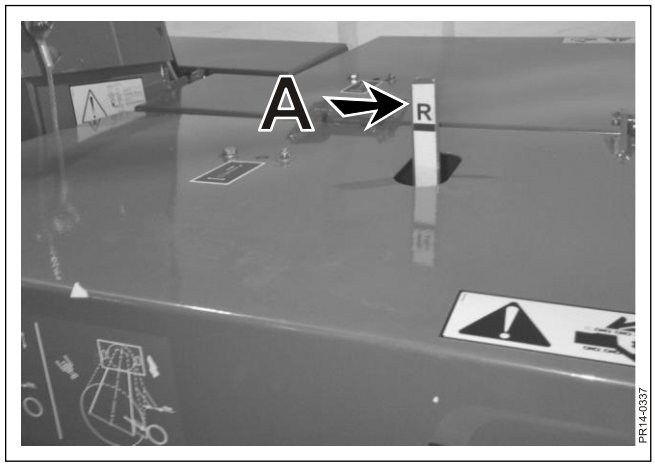


Fig. 6-6

Fig. 6-6 The belt tensioning is correct when indicator **A** will not move upwards any further. Release the toggle switch.

STARING PROCEDURE FOR ELECTRO-HYDRAULIC CONTROL

Turn on the control (button on the side of the control box) and turn on the oil flow to the machine.

MD CONTROL

Reset and check the metal detector:

Lights on the control box:

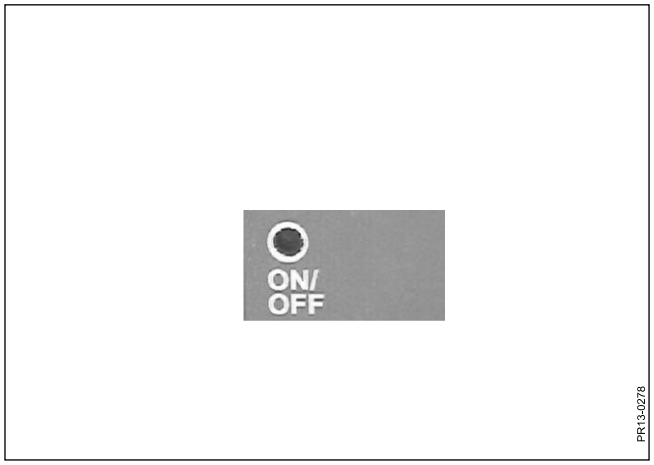


Fig. 6-7

Fig. 6-7 The green light indicates that the control system is on.

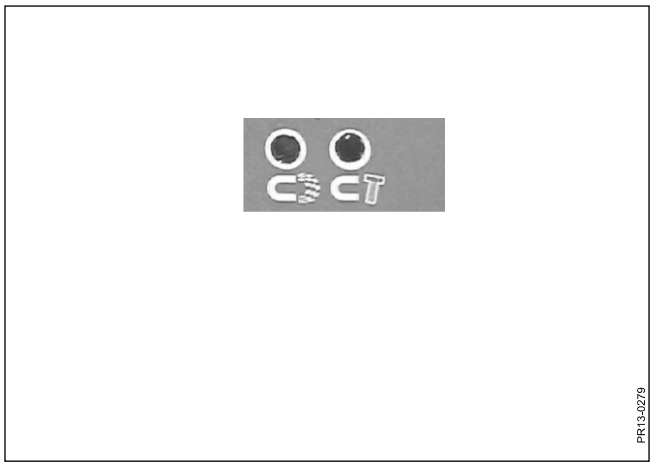


Fig. 6-8

Fig. 6-8 The green light on the left-hand side indicates that the machine is operating with normal feed intake and that the metal detector system is activated.

The red light on the right-hand side indicates that the machine is in "metal stop", This means that the electronic system has detected metal and the system has responded (the pawl blocks the ratchet wheel and the reverse system switches to the neutral position).

When the control system is turned on, it is in the "metal stop" state. Therefore, the green light **(Fig. 6-7)** and the red light on the right-hand side **(Fig. 6-8)** are flashing on, and the reverse system is in neutral position. The control system cannot be set to "feed intake" until the system has registered that you have reversed.
Therefore: Connect the power take-off (only the blade rotor rotates) and move the feed intake to reverse until the red light extinguishes after about two seconds (the control system has registered that you have reversed).
Set the control system to feed intake. The green light on the left-hand side **(Fig. 6-6)** now indicates that the metal detector is activated.

Disconnect the power take-off again and turn off the engine, but do NOT turn off the machine's electronics. Test the operation of the detector by moving a large piece of magnetic metal across the lower front feed roller.

WARNING: Do not approach the machine when the feed intake is in neutral position and the rotor is rotating. Neutral position does not guarantee that the feed intake will not start. Do not approach the machine until the blade rotor has come to a complete standstill.

Fig. 6-8 When the metal detector has detected metal, the reverse system moves to neutral position and the red light on the control box will be illuminated again.
The detector has now been checked. Reset the detector as described above.

STARTING (CONTINUED) ALL MACHINES

Gradually increase the machine to the correct RPM. This is 1,000 RPM on the PTO during operation, so start with approx. 1,050-1,100 RPM unloaded.
Drive slowly into the crop and increase the forward speed as long as the tractor can maintain the required RPM of approx. 1,000.

An inexperienced operator should always operate the machine with reserve capacity in order to avoid problems with flow through the machine.

IMPORTANT: Always make sure that the tractor can maintain the correct RPM of 1,000 on the PTO. This ensures regular loading of the machine and avoids torque increases (in case of reduced RPM), which will cause wear on the safety clutches and transmission.

To obtain optimal pick-up function, it is important that:

- The crop enters the machine evenly and that you drive in the opposite direction of the mower conditioner wherever possible;
- The forward speed is adjusted to the amount of crop and is not so high that there are frequent blockages;
- You drive as straight as possible into the crop and are aware of this when turning in the field.

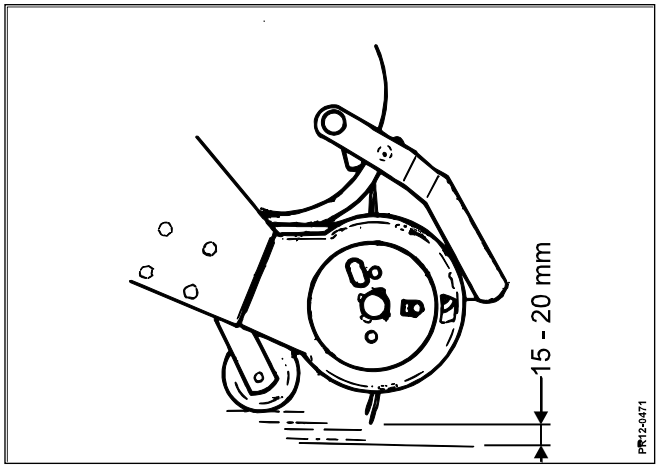


Fig. 6-9

Fig. 6-9 The underside of the pick-up is equipped with steel support rollers, which are height-adjustable. The wheels have been adjusted at the factory so that there is 15-20 mm space between the tines and even and firm ground. Regularly check that the pick-up tines do not extend further down than is necessary in order to pick up the swath efficiently. If the tines hit the ground too hard, they will wear quickly and the pick-up drive may be overloaded.

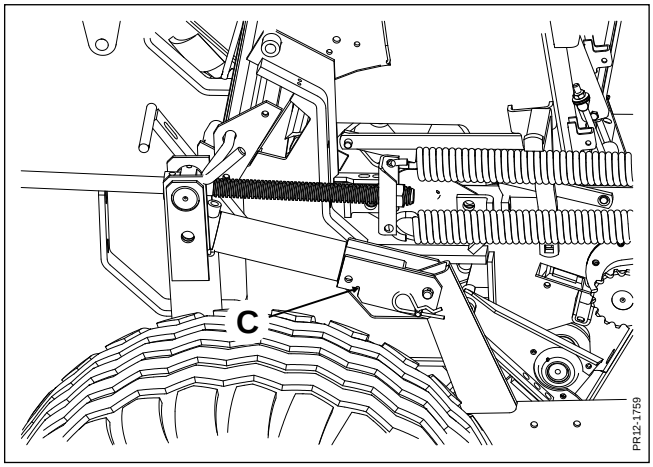


Fig. 6-10

Fig. 6-10 Before making any adjustment, the cylinder stop C must be engaged and secured using the pin.

Lift the pick-up completely during transport and when turning. When driving through soft areas in the field, the pick-up can be partially raised to avoid picking up earth, etc. The position of the pick-up is locked, in both the raised and partially raised position. The supporting rollers can only follow the ground when the pick-up is fully lowered. It takes around two seconds to lower the pick-up completely with the joystick activated.

BLOCKAGE IN THE MACHINE ACTUATOR CONTROL

Auger and feed intake section:

In the event of a blockage in the auger or feed intake section, activate the reverse function **immediately,** and reduce the RPM. Now switch the reverse system to reverse position at a low RPM, enabling the material in the machine to be reversed out. We recommend reversing slowly with the machine while the material is pushed out. This avoids the build-up of material behind the pick-up auger and in front of the pick-up tines.

After reversing, return the reverse system back to normal feed in at a low RPM. The machine may be increased to the correct RPM and work resumed when it is operating correctly.

BLOCKAGE IN THE MACHINE ELECTRO-HYDRAULIC CONTROL

Auger and feed intake section:

In cases where a blockage in the auger or feed intake section is established, place the system in the neutral position and reduce the RPM.

This stops both the auger and feed in immediately, and enables you to see what has happened.

WARNING: Do not approach the machine when the feed intake is in neutral position and the rotor is rotating. Neutral position does NOT guarantee that the feed intake will not start.

Now move the reverse system to reverse position at a low RPM (the push-button on the control box). This raises the auger, the feed intake runs "backwards" and the material in the machine is reversed out. We recommend reversing slowly with the machine while the material is pushed out. This creates room for the grass being reversed out and leaves it as a regular "swath".

After reversing, increase the machine to the normal RPM setting. Then set the auger and feed intake section to normal feed in (toggle switch on the control box). It is important to have a normal RPM setting when the feed intake is started; otherwise the chute or the rotor may become clogged.

THE ROTOR

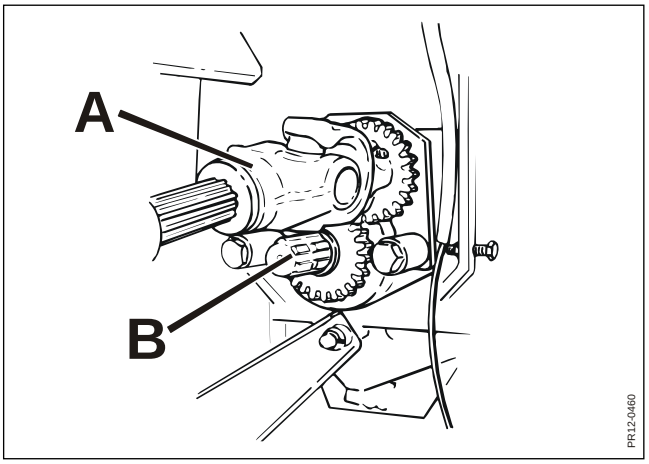


Fig. 6-11

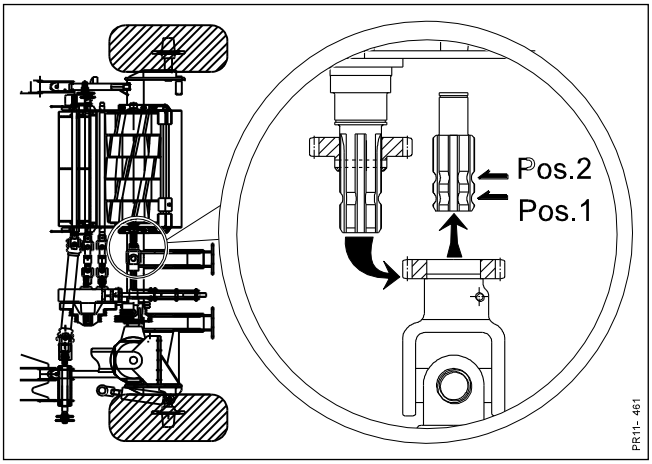


Fig. 6-12

In the event of a blockage in the rotor, immediately change to neutral position and turn off the power transmission. This stops both the auger and feed in immediately, and enables you to see what has happened.
To enable the feed rollers to pull the material out of the rotor, they must be disconnected during reversing. The procedure is as follows:

1) Go to the machine when the power take-off has been disconnected and the engine has stopped.

DANGER: **Do not approach the machine until the rotating parts have come to a complete standstill and be aware that neutral position does not guarantee that the feed intake will not start**

Fig. 6-11 2) Move the PTO shaft **A** from the rotor to the alternative pin in **position 1** where the gear wheels
Fig. 6-12 are not meshed. This means that there is no power to the rotor.

WARNING: **It is important that the PTO shaft is NOT moved to position 2, where the rotor rotates in the opposite direction This position must be used for grinding only.**

3) Connect the power take-off again at a low RPM setting, move the reverse function to reverse position and reverse the material out of the machine.

Fig. 6-11 4) After reversing, disconnect the tractor's power take-off again, stop the tractor and move the PTO shaft **A** back to the pin **B** for driving the rotor.

5) With the reverse function in neutral, it **is now normally possible** to connect the power take-off and "blow" the chopped grass in the rotor housing out of the chute, unless this is also blocked. In order to "blow out the rotor housing", it is necessary to increase the RPM setting to maximum!

6) Move the reverse function back to normal feed intake, and operation can be resumed.

METAL DETECTION DURING OPERATION

In cases where the magnetic tub in the front lower feed roller detects magnetic metal, the metal detection system ensures that the feed intake stops immediately as described in the section entitled “THE MD SYSTEM” in chapter 5 "METAL DETECTOR (MD)".

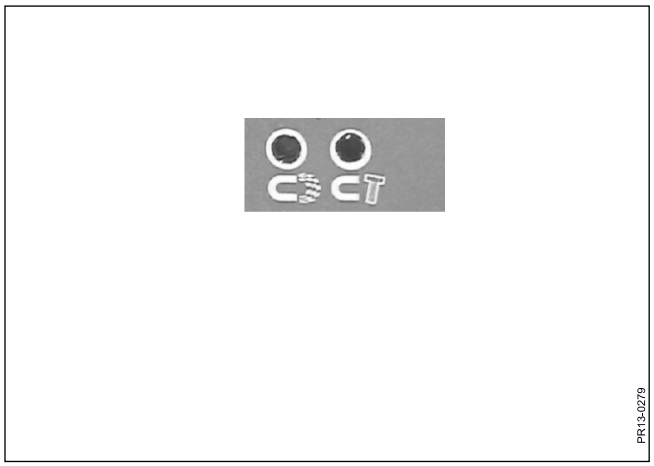


Fig. 6-13

Fig. 6-13 In such cases, the red light on the left-hand side of the control box will illuminate, and you must do the following:

1) Immediately reduce the RPM of the tractor and reverse a couple of metres.

2) Then reverse the material out of the feed intake. The red lamp will then extinguish. We recommend reversing slowly with the machine while the material is pushed out. This creates room for the grass that is reversed out.

3) Disconnect the power take-off and stop the tractor engine.

WARNING: **Do not approach the machine when the feed intake is in neutral position and the rotor is rotating. Neutral position does not guarantee that the feed intake will not start.**
Do not approach the machine until the blade rotor has come to a complete standstill.

4) When the blade rotor has stopped, remove the piece of metal from the reversed material.
Be aware that small pieces may fall out at the rear lower roller.

Alternatively: Raise the pick-up and drive forward over the crop which has been reversed out of the machine, then start picking up grass from the swath again. The remaining crop containing metal can be picked up later after the metal has been found.

5) When the metal has been found, the feed intake section can be started and operation continued.

MISCELLANEOUS

If you use ensiling agents, the relevant safety instructions for these must be observed.
It is particularly important to use eye protection.

HYDRAULIC TOW HITCH (AUTO-HITCH)

Machines can be supplied with a hydraulic hitch for the connection of trailers. The maximum draw eye pressure is 2,000 kg. Maximum total weight of trailer being towed: 15,000 kg.

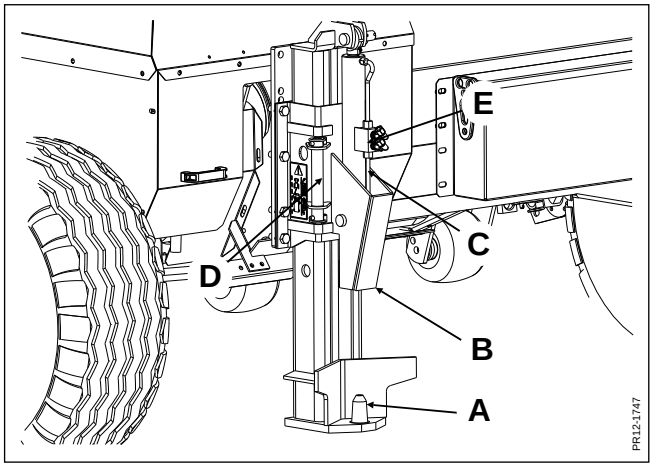


Fig. 6-14

Fig. 6-14 The hydraulic hitch **B** has been fitted with a tow hitch **A**, that can be hydraulically raised and lowered by the double acting cylinder **C**. The hoses from the cylinder **C** must be connected to a vacant valve on the valve block or be connected to the tractor. The hydraulic hitch **B** is then operated using one of three toggle switches located at the front of the control box or via the connector on the tractor.

The machine must be reversed up to the drawbar of the trailer in cases where a trailer is being connected. The tow hitch **A** must be lowered to pick up the hitch eye of the trailer. The trailer is raised using the hydraulic cylinder **C** until it reaches its block position. A hydraulic lock valve **E** fitted to the cylinder **C** ensures that the hitch eye **A**remains in its raised position. If the trailer has been fitted with a connector for lighting and hoses for tipping and braking, these must be fitted subsequently.

IMPORTANT: When driving on public roads with a trailer connected to the hydraulic hitch B, the locking pin D MUST be removed from its holder and be placed through the frame on the hydraulic hitch B, so that hitch eye A is mechanically locked; see fig. 6-15. This must be done in order to comply with the applicable road traffic legislation.

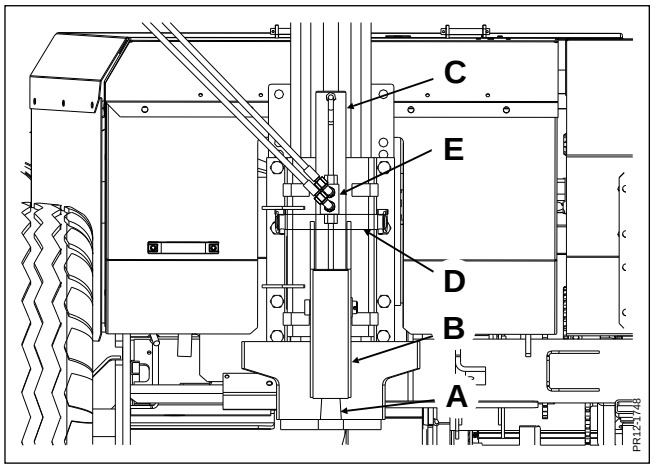


Fig. 6-15

Fig. 6-15 The trailer is unhitched in the following way: Position locking pin **D** so that it locks the hitch eye **A** (see figure 6-14); remove the locking pin **D** and place it in the holder of the hydraulic hitch **B**. Then lower hitch eye **A** by activating cylinder **C**. The trailer will be released once hitch eye **A** has been lowered. Remember also to remove any connectors for lights and hoses for tipping and braking where fitted.

7. MAINTENANCE

GENERAL

WARNING: **When carrying out repairs or maintenance on the machine, it is particularly important to follow appropriate personal safety rules. You must therefore always park the tractor (if coupled) and the machine in accordance with points 1-20 of the "GENERAL SAFETY RULES" at the beginning of this user manual.**

IMPORTANT: Re-tighten screws and bolts on your new machine after a few hours of operation. The same applies after carrying out any repairs.
Particular care must be taken to ensure that the blades on the rotor are re-tightened carefully.

Torque measurements **M_A** for bolts on the machine (unless stated otherwise in this instruction manual):

A 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 24	640	900	1,100
M 24x1.5	690	960	1,175
M 30	1,300	1,800	2,300

GUARDS

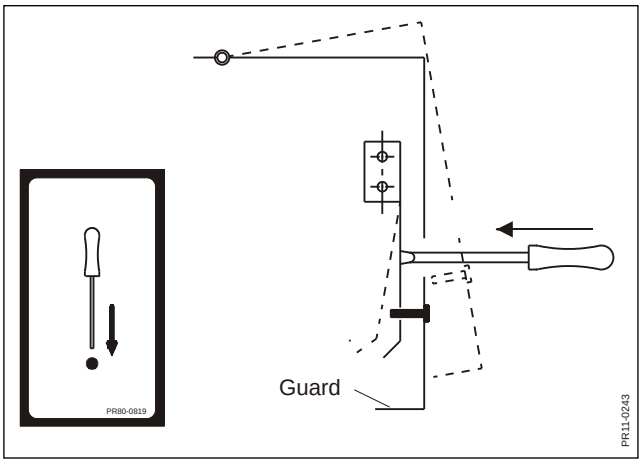


Fig. 7-1

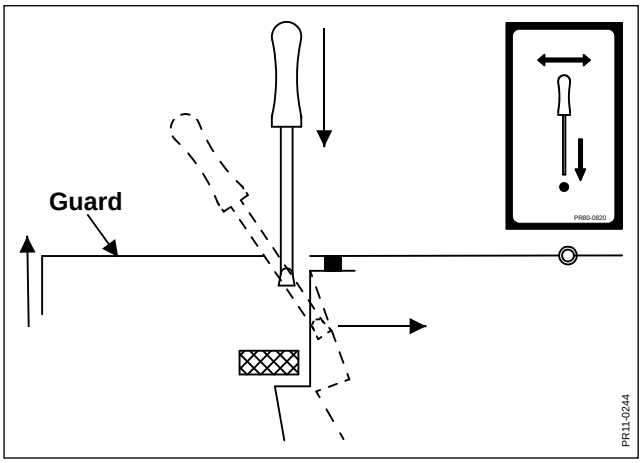


Fig. 7-2

Fig. 7-1 When maintaining the machine, you will often need to open or remove
Fig. 7-2 guards. All guards have been fitted with locks for safety reasons. The lock ensures that the guard cannot be opened without using a tool. Figures 7-1 and 7-2 illustrate the two locking principles and the associated transfers to mark and illustrate the locks on the machines.

REPLACEMENT OF BLADES

See description for replacement of blades in the rotor and the subsequent adjustment in the section REPLACEMENT AND ADJUSTMENT OF BLADES in chapter 4 "ADJUSTMENTS".

TYRE PRESSURE

The FCT 1060 is fitted with wide tyres as standard, which offers good carrying capacity and thus a low ground pressure. However, wider low profile tyres for driving in areas with less carrying capacity are available as optional equipment.
The table below indicates the recommended tyre pressure.

FCT 1060	**Tyre dimension**	**Tyre pressure with trailer**	**Tyre pressure without trailer**
Machine (Standard)	14.0/65-16/10	Max. 2.80 bar	Min. 0.8 bar
Machine (Optional equipment)	19.0/45-17/10	Max. 2.25 bar	Min. 0.8 bar
Rubber wheels for pick-up (Optional equipment)	3.50-6/4	3.0 bar	3.0 bar

CAUTION: **Check the tyre pressure regularly and make sure that the wheel fixing nuts are tightened correctly.**

FRICTION CLUTCH

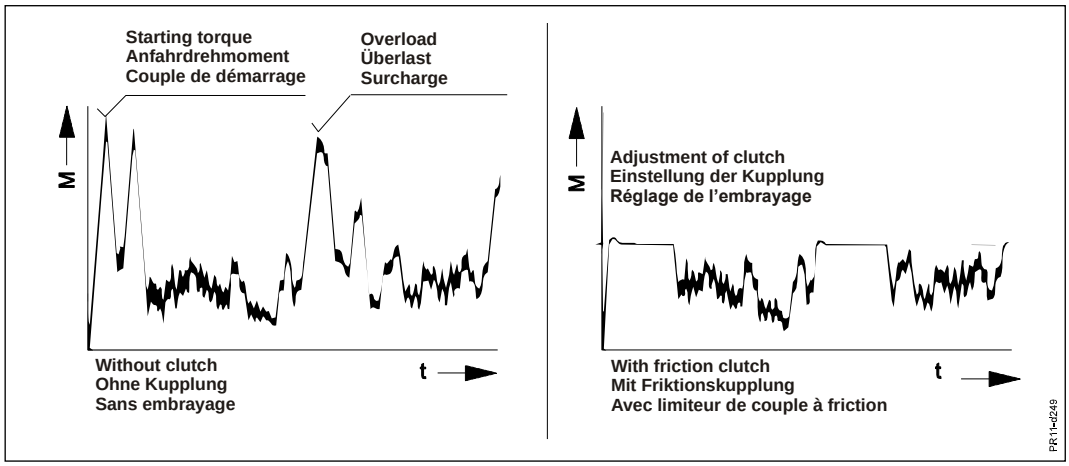


Fig. 7-3

Fig. 7-3 To ensure a long life for your tractor and machine, the machine is supplied with a friction clutch on the PTO drive shaft at the rear end of the drawbar and on the driving mechanism for the feed rollers. 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 operating (slips).

The auger is also fitted with a friction clutch as described in the section PICK-UP in chapter 4 "ADJUSTMENTS".

The friction clutches must be maintained at regular intervals. The clutches must also be checked if they have not been in operation for some time. This is especially applicable following winter storage before the machine is used for the first time in the season.

Maintenance of the friction clutch on the PTO drive shaft for the FCT 1060 (Walterscheid):

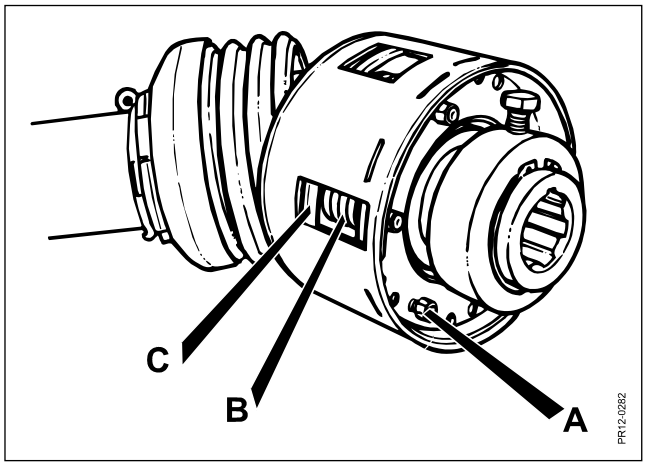


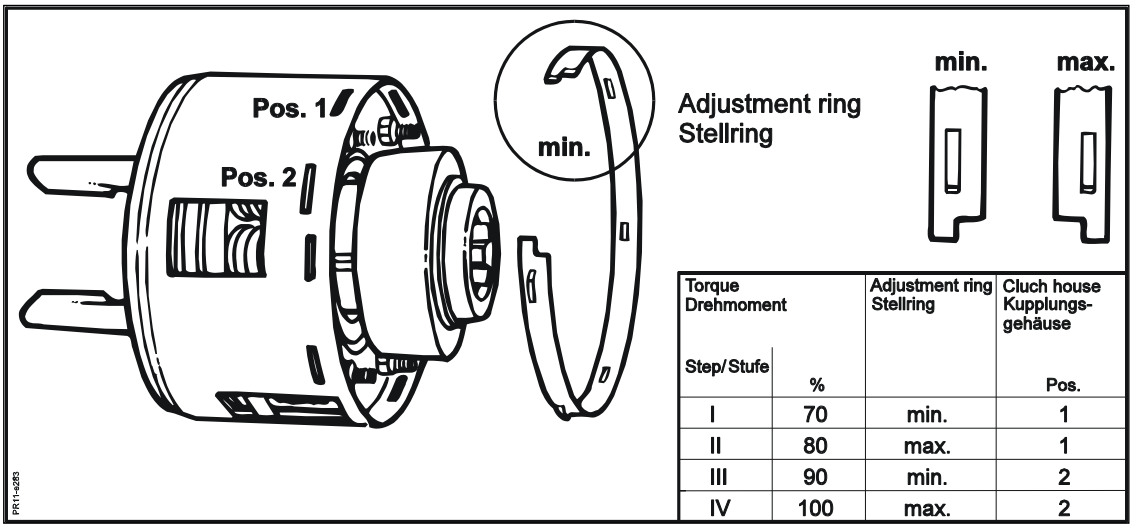
Fig. 7-4

Fig. 7-4 Before using a new machine and following longer periods of inactivity, e.g. winter storage,
the clutch must be "vented".

1) The six nuts **A** on the flange must be tightened. This presses the tines **B** together so that they do not press on the clutch plates **C** and the clutch can rotate freely.

2) **Allow the clutch to rotate for around 30 seconds**. This will release any dirt, material coatings and any rust on the plates.

3) **The nuts A must be tightened again**, until they are level with the threads on the bolts, and the tines **B** will once again press on the clutch plates **C**.



Torque Drehmoment Step/Stufe	%	Adjustment ring Stellring	Cluch house Kupplungs-gehäuse Pos.
I	70	min.	1
II	80	max.	1
III	90	min.	2
IV	100	max.	2

Fig. 7-5

Fig. 7-5 The torque of the friction clutch is adjustable. However, you must not change the factory setting before contacting your retailer or the factory's Service Department.
The friction clutch has four different torque settings. The setting can be altered by turning adjustment ring **D** and selecting between two different positions in the clutch housing.

1. The adjustment ring has a **minimum** and a **maximum** position.

2. The clutch housing has two sets of grooves **E** at different heights that the adjustment ring **D** can be fitted in for **position 1** and **position 2** respectively.

GUIDELINES FOR TORQUE ADJUSTMENTS:

PTO	Torque	Setting
1,000	1,580 Nm	Level I
1,000	**1,800 Nm**	**Level II**
1,000	2,080 Nm	Level III
1,000	2,300 Nm	Level IV

The clutch is supplied by the factory in setting II, which corresponds to 1,800 Nm, and should not be adjusted higher than this!

The torque setting may **only** be adjusted when the nuts **A** (on Fig. 7-4) have been tightened. After adjustment, the nuts can be slackened again to the ends of the bolt.

WARNING: **If the clutch is overloaded by having longer glide times, it will become hot and quickly become worn.**
Overheating will damage the friction plates. The factory warranty supplied with the machine will be void if the clutch is blocked or rendered such that it is unable to function in some other way.

Maintenance of the friction clutch on the auger

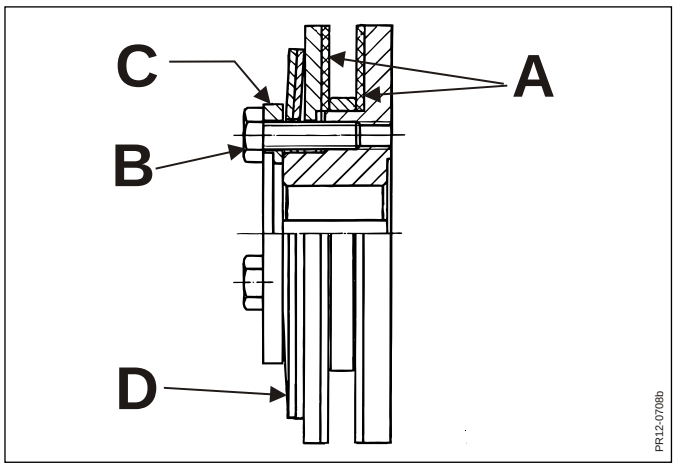


Fig. 7-6

Fig. 7-6 1) Disassemble the clutch and clean all parts to remove any rust;
2) Check the clutch discs **A** for wear and replace if required;
3) Assemble and refit the clutch again. Tighten the bolts **B** with normal torque as the flange **C** ensures the correct compression of the springs **D** and thus the correct torque setting.

WARNING: **If the clutch is overloaded by having longer glide times, it will become hot and quickly become worn.**
Overheating will damage the friction plates. The factory warranty supplied with the machine will become void if the clutch is blocked or rendered such that it is unable to function in some other way.

FUSES

ACTUATOR CONTROL

The electrical connection supplied contains a 20 A fuse.

WARNING: Never use fuses with a higher rating. Doing so could damage the electronic components. If the fuses blow, there is a fault in the electric system.

ELECTRO-HYDRAULIC CONTROL

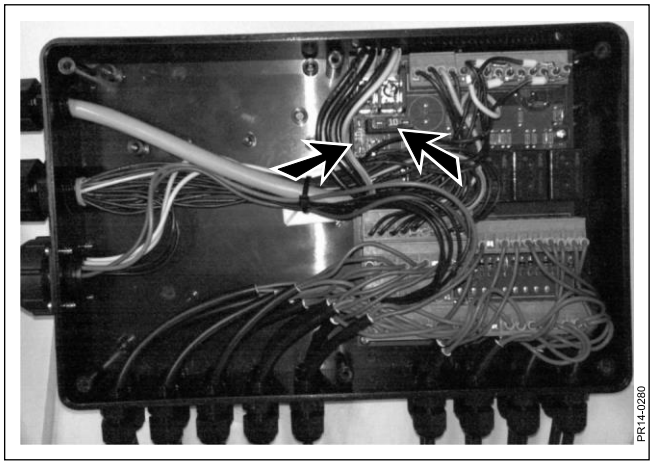


Fig. 7-7

Fig. 7-7 The control system for the machine contains two 10 A fuses. The fuses must only be replaced with fuses with the same rating. With the exception of the replacement of fuses, servicing must only be carried out by an authorised KONGSKILDE retailer/Service technician.

WARNING: Never use fuses with a higher rating. This may damage the control system. If the fuses blow, there is a fault in the electric system.

ELECTRO-HYDRAULIC CONTROL WITH METAL DETECTOR

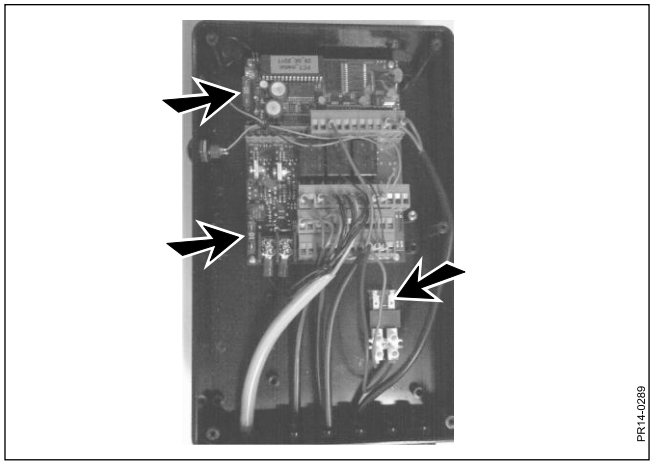


Fig. 7-8

Fig. 7-8 There are two 10 A fuses and one 5 A fuse in the MD control unit. The fuses must only be replaced with fuses with the same rating. With the exception of the replacement of fuses, servicing must only be carried out by an authorised KONGSKILDE retailer/Service technician.

WARNING: Never use fuses with a higher rating. This may damage the control system. If the fuses blow, there is a fault in the electric system.

MISCELLANEOUS

ROLLERS

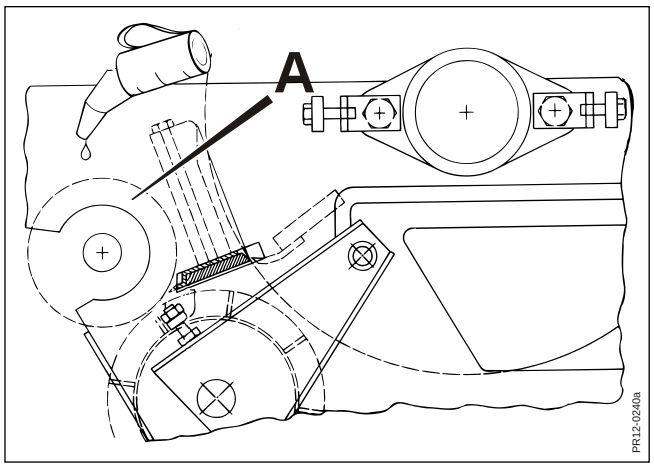


Fig. 7-9

Fig. 7-9 The rear upper feed roller, the smooth roller **A**, should be protected from the formation of rust on the surface. The entire surface should be lubricated with oil if the machine is not in use for a period of more than one day.

CHAIN TIGHTENER FOR PICK-UP AUGER

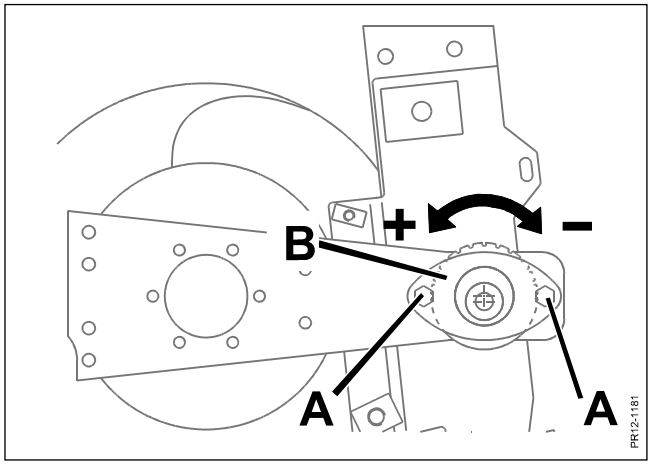
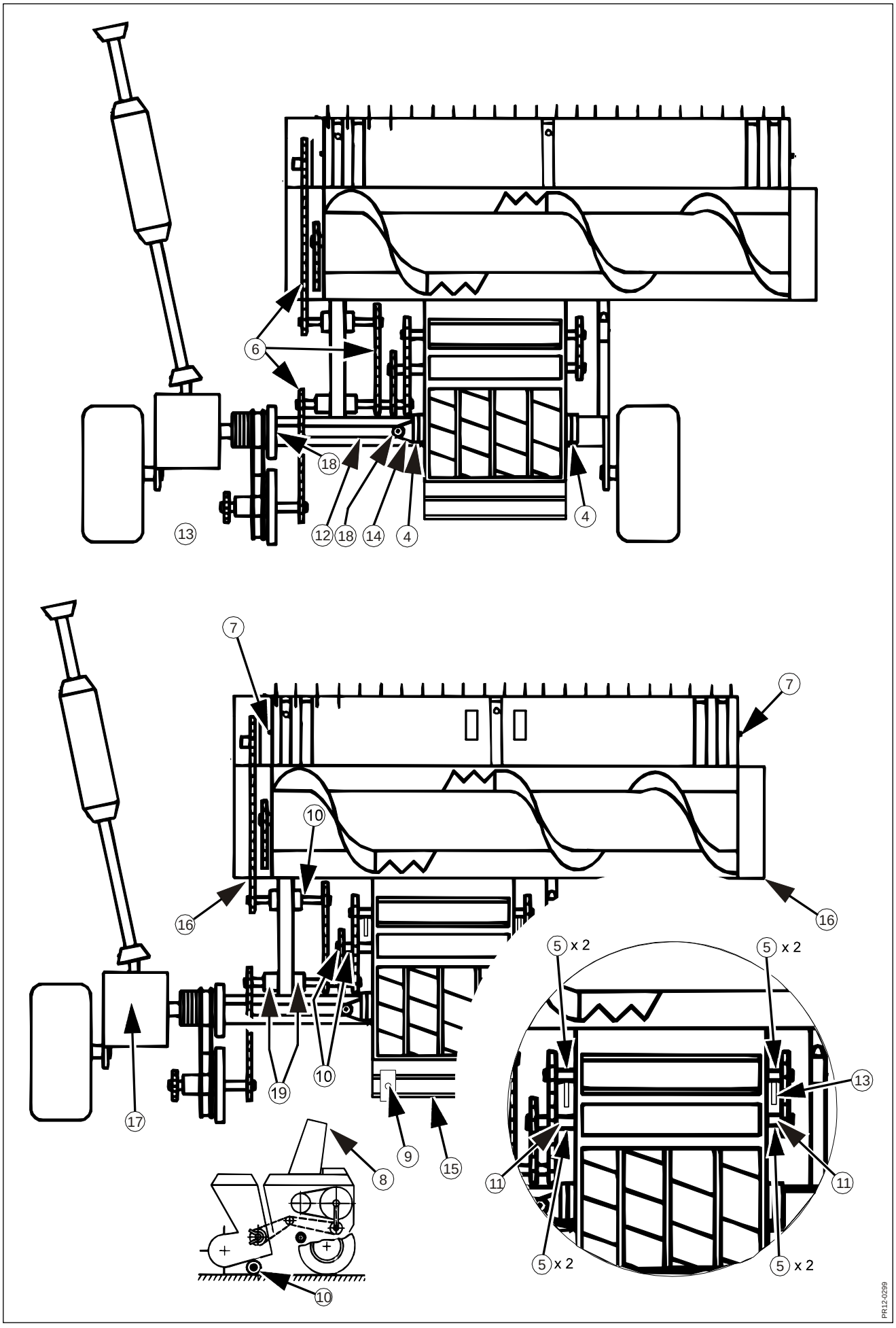


Fig. 7-10

Fig. 7-10 Two bolts **A** must be loosened to allow the eccentric **B** to be turned with a screwdriver, etc. Turn in the **+** direction in order to tighten and in the **–** direction to loosen.

CAUTION: It should always be possible to move the chain at least 20 mm up and down in the middle.


6
18
13
12
18
14
4
4
7
7
10
16
16
5 x 2
5 x 2
13
19
10
17
9
15
8
11
11
5 x 2
5 x 2
10
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8. LUBRICATION

Every 8 hours of operation:

4	Rotor bearings	2
5	Feed rollers	8
6	Chains (grease with thin oil/chainsaw oil)	8
18	Transmission shaft at rotor	2

Every 25 hours of operation:

12	Profile tubes on PTO shafts	1
7	Bearings for tube in the pick-up	2
8	Swivel chute	4
9	Grinding device	1
10	Support rollers	3
11	Link bearings in rocker arms	2
13	Hitch (Optional equipment)	2
14	Alternative pin for transmission shaft at rotor (grinding/blocking)	1
15	Steering device for grindstone (rust-preventing oil)	2
19	Axle bearings	2

Annually:

16	Support arm for pick-up	2

17 Bevel gearbox:

- **Oil type:** Quality API GL4 or GL5 SAE 80W-90
- **Oil content:** 4.5 litres
- **Oil change:** After the first 10 operating hours and annually thereafter.

LUBRICATING THE PRIMARY PTO SHAFT

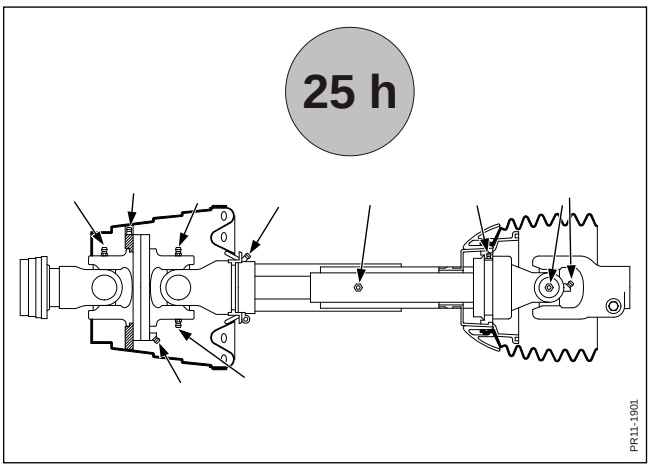


Fig. 8-2

LUBRICATING THE SECONDARY PTO SHAFT

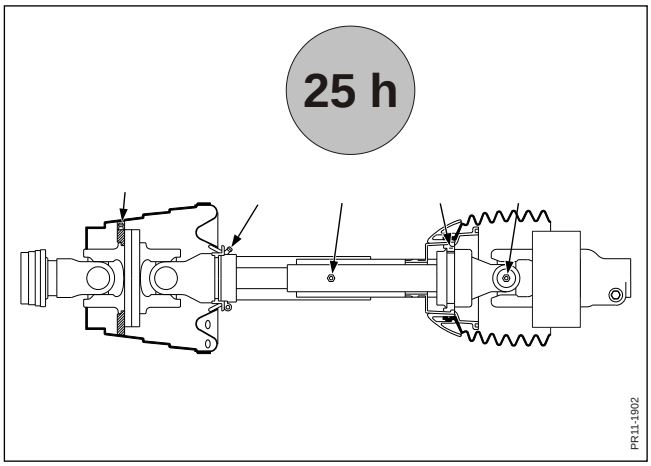


Fig. 8-3

9. STORAGE (WINTER STORAGE)

The machine should be prepared for winter storage immediately after the end of the season. Start by cleaning the machine thoroughly. Dust and dirt absorb moisture and moisture increases the formation of rust.

CAUTION: **Be careful when cleaning with a high-pressure cleaner. <u>Never</u> spray directly onto bearings, and grease all grease points carefully after cleaning, so that any water is forced out of the bearings.**

IMPORTANT: **Grease all grease points after cleaning the machine.**

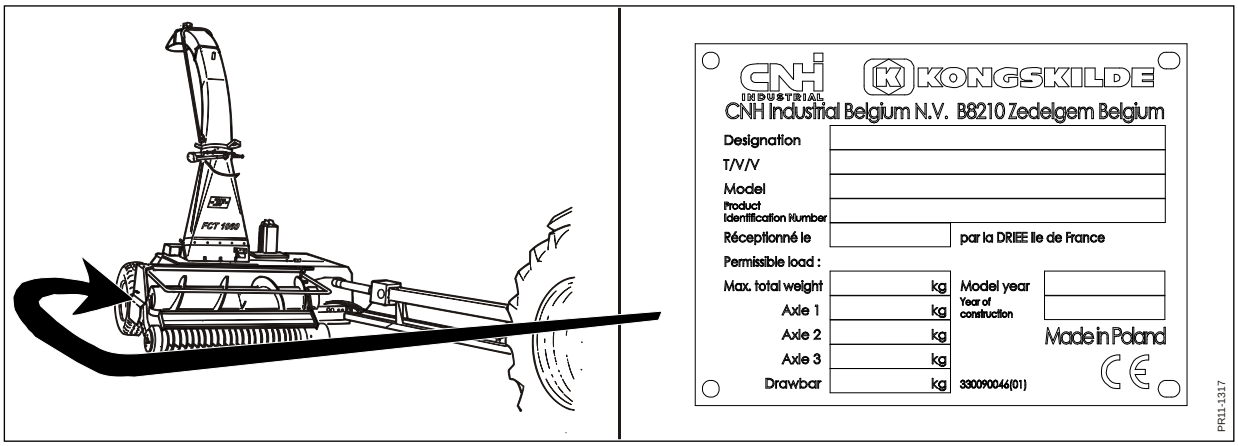
The following points provide guidelines on how to prepare for winter storage:

- Check the machine for wear and other defects – Make a note of the parts you will need before the next season and order the spare parts;
- Disconnect the PTO drive shafts, lubricate the profile tubes and keep them in a dry place;
- Spray the machine with a thin coat of rust-preventing oil. This is especially important for parts that become polished with use;
- Change the oil in the gearbox;
- Store the machine in a ventilated machinery store;
- Jack up and support the machine to relieve pressure on the tyres.

10. ORDERING SPARE PARTS

When ordering spare parts, state the type designation and serial number of the machine.

You will find this information on the rating plate. You should make a note of this information on the first page of the spare parts catalogue supplied with the machine as soon as possible after delivery, so
that you have it to hand when ordering spare parts.



11. DISPOSAL

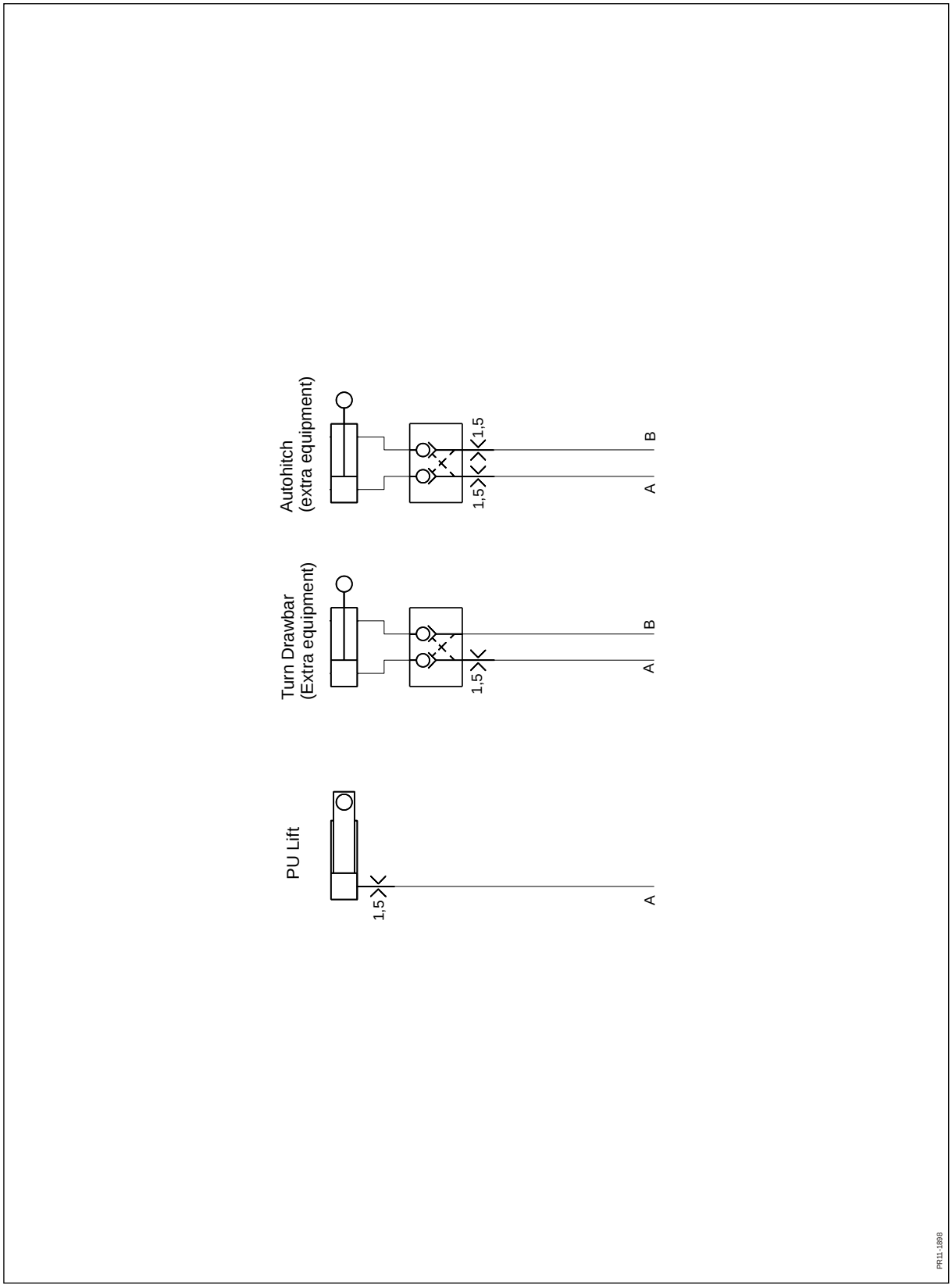
At the end of the machine’s life, it must be disposed of in an appropriate manner.

Observe the following:

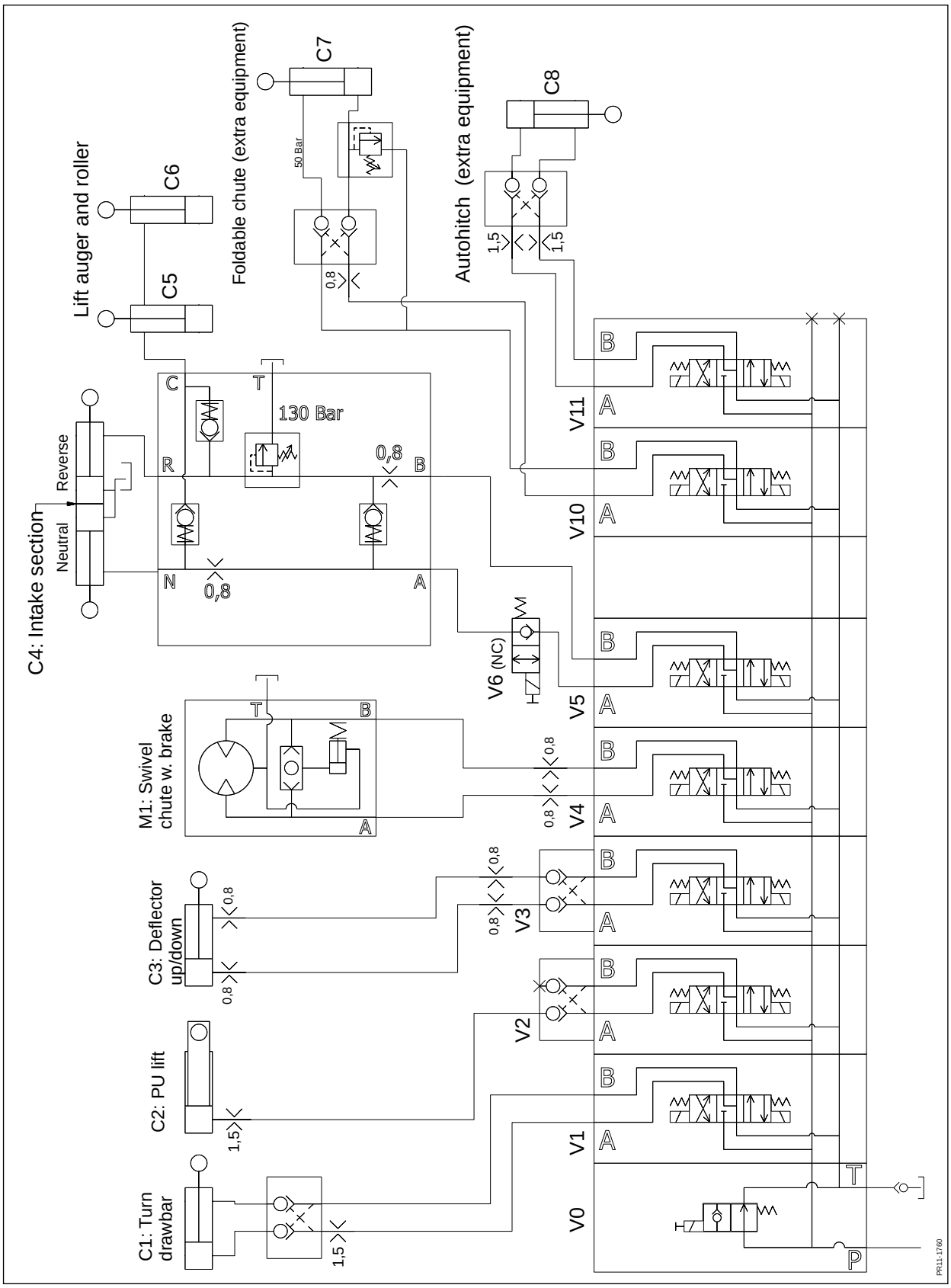
- The machine must **not** be disposed of in the natural environment;
- Gears, cylinders and hoses must be drained of oil and the drained oil must be taken to a disposal firm.
- Remove all consumables, e.g. PTO shafts, tyres and hydraulic components, etc. from the machine.
- Take re-usable parts to an authorised recycling centre. Large scrap components should be taken to an approved breaker's yard.

12. FAULT FINDING

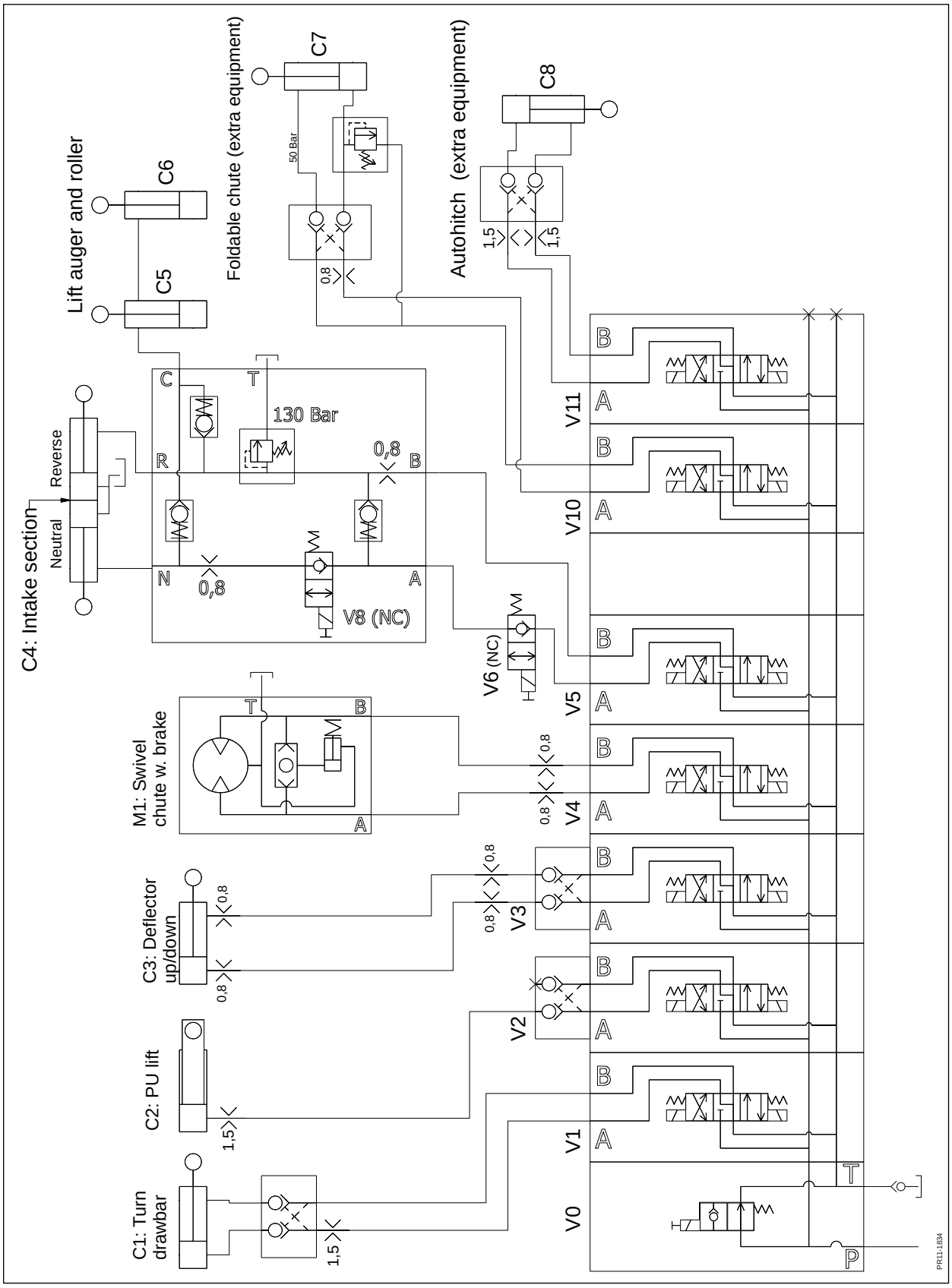
HYDRAULIC DIAGRAM FOR FCT 1060C



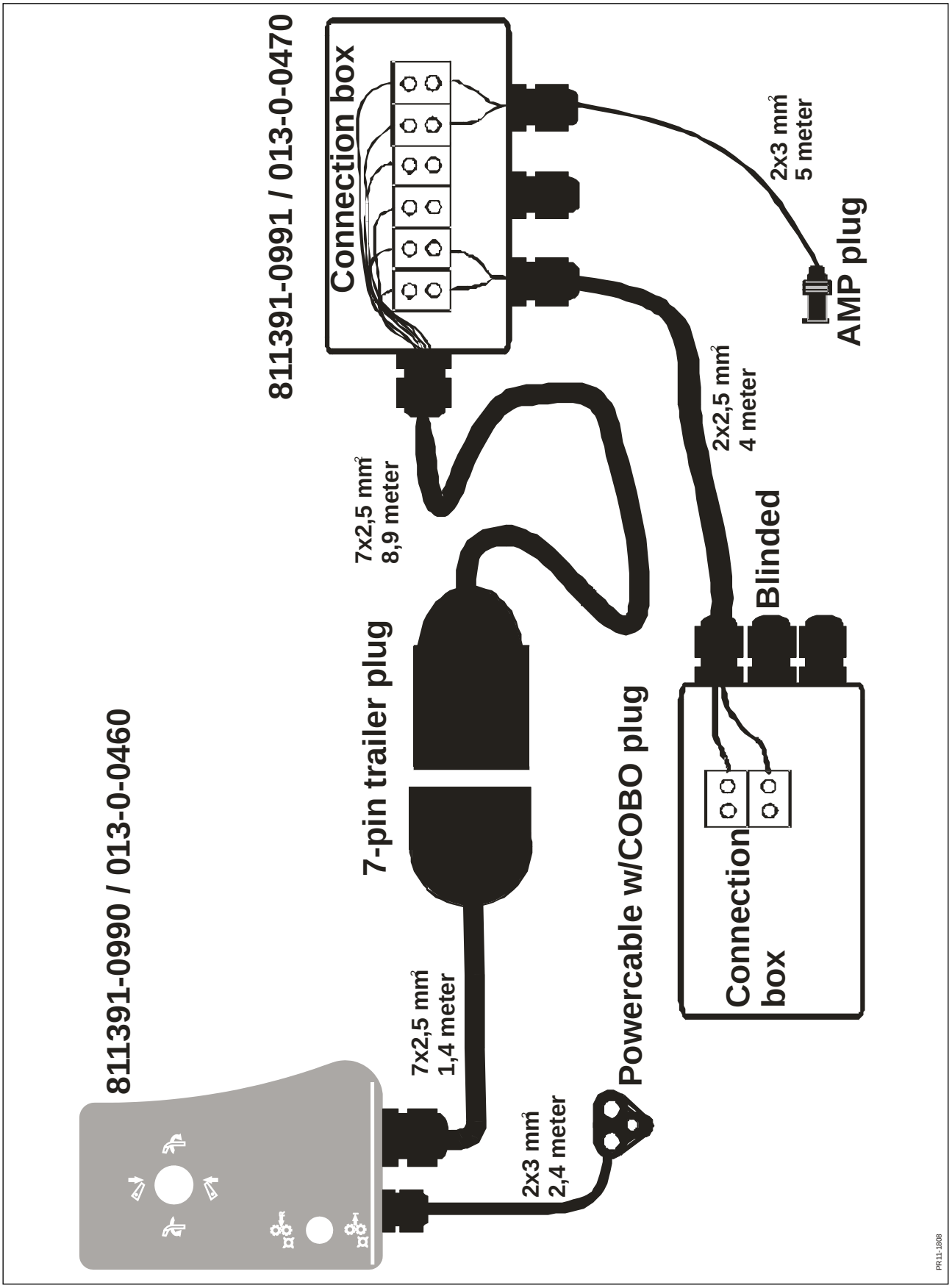
HYDRAULIC DIAGRAM FOR FCT 1060



HYDRAULIC DIAGRAM FOR FCT 1060MD

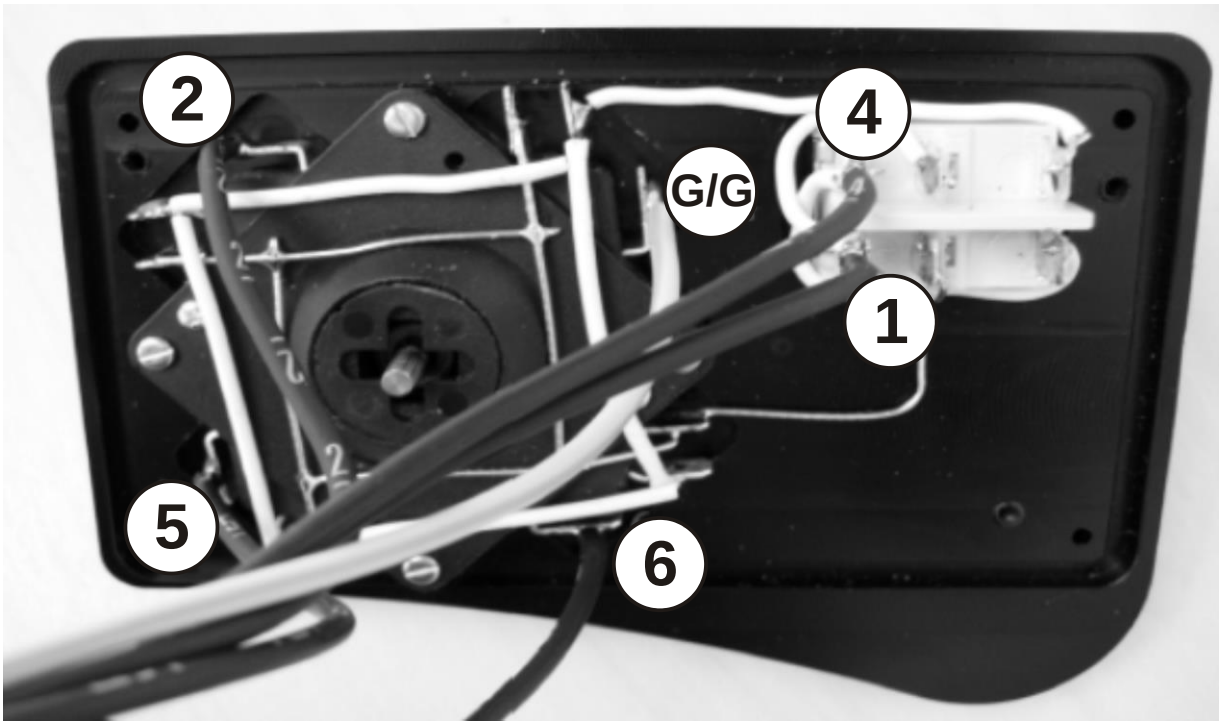


CONTROL FOR ACTUATOR CONTROL



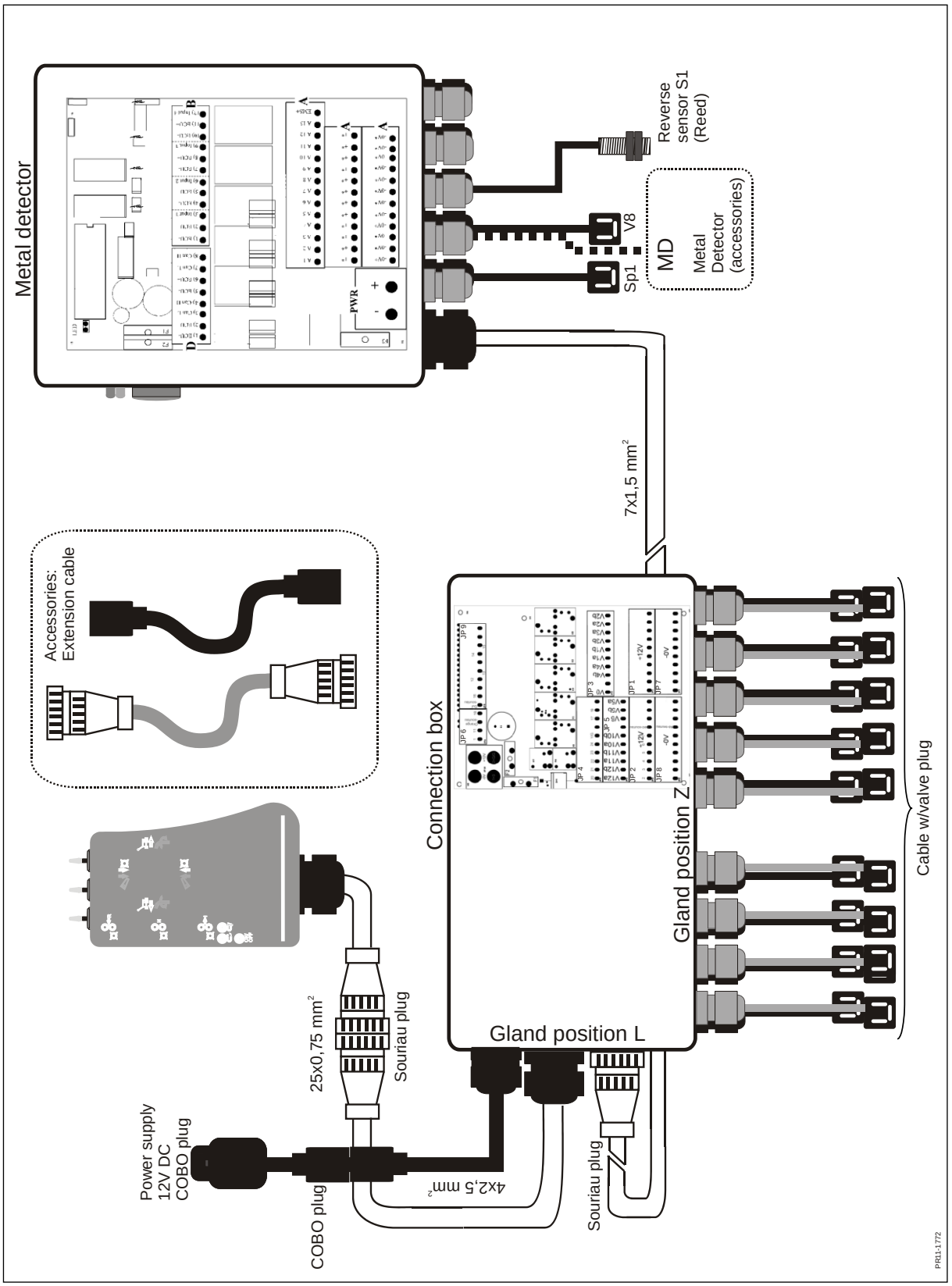
WIRING

Function category	Functional description	Multi cable wire no.	Trailer connection
Joystick sw 5.1	V5a Valve	1	1
Joystick 6.4	Joystick Right V4A	2	2
	not used	3	3
Joystick sw 5.2	V6 Valve	4	4
Joystick 6.2	Joystick Down V3B	5	5
Joystick 6.3	Joystick Left V4B	6	6
Joystick 6.1	Joystick Up V3A	G/G	7

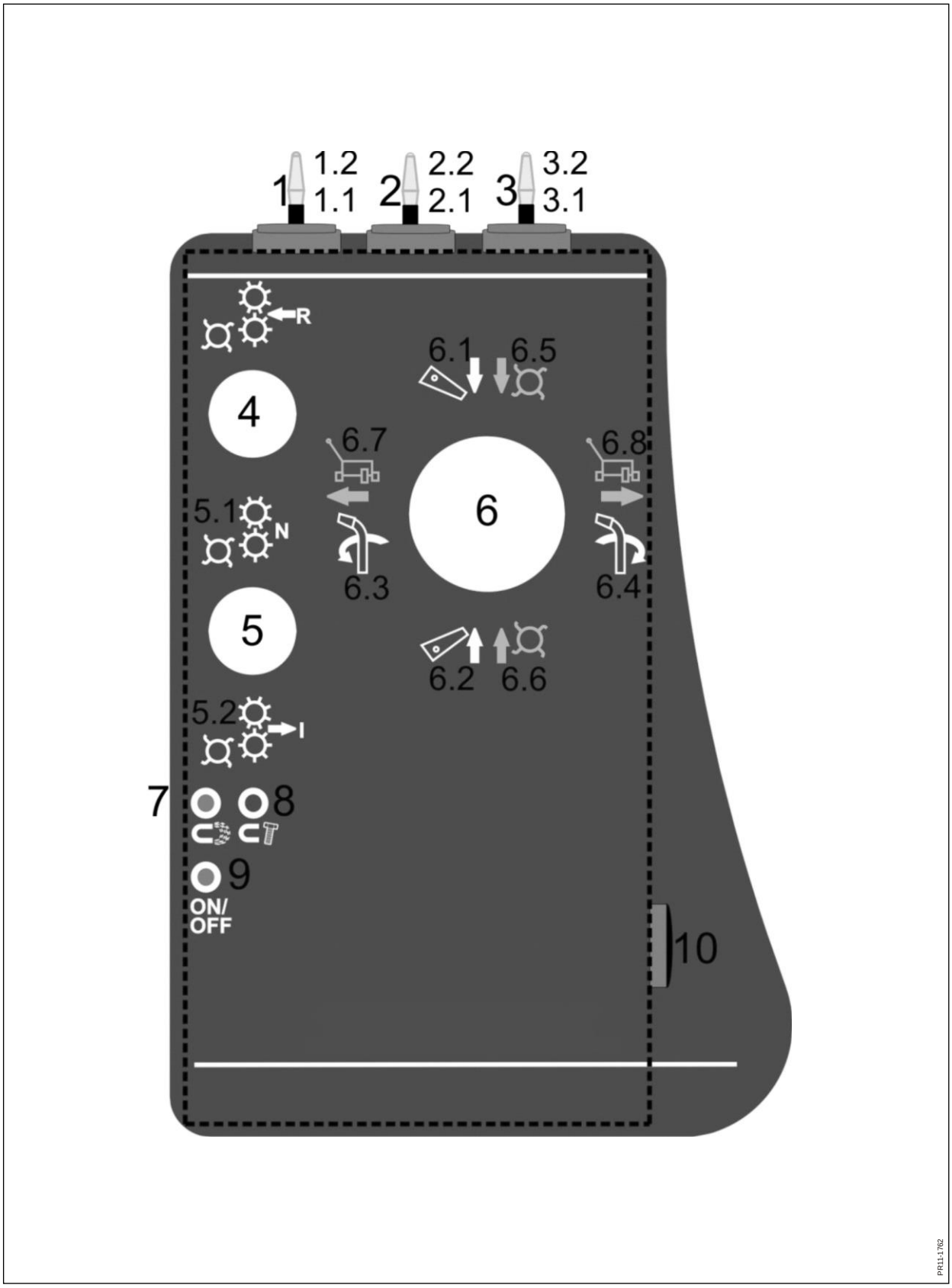


PR14-03401

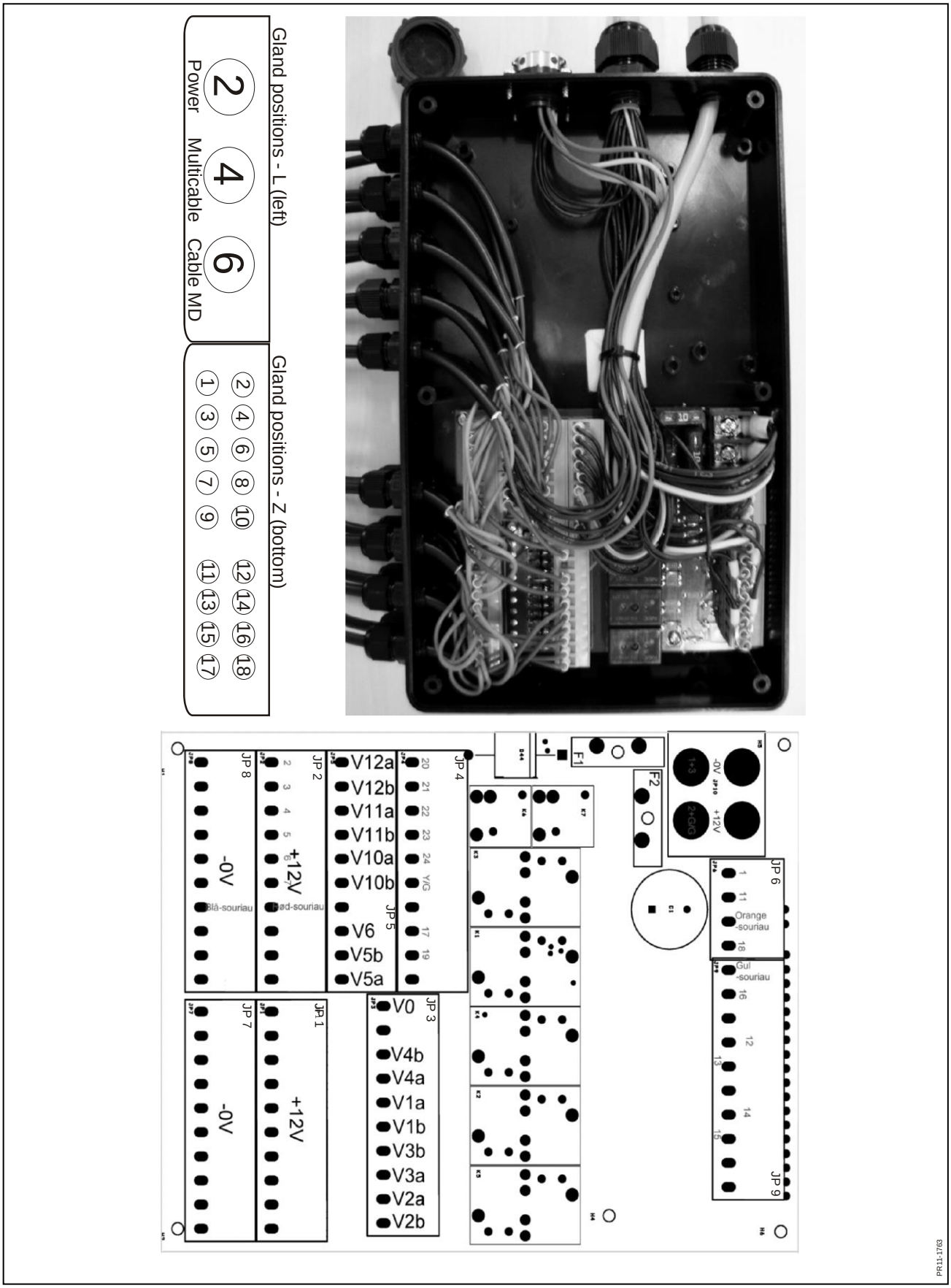
CONTROL FOR ELECTRO-HYDRAULIC CONTROL



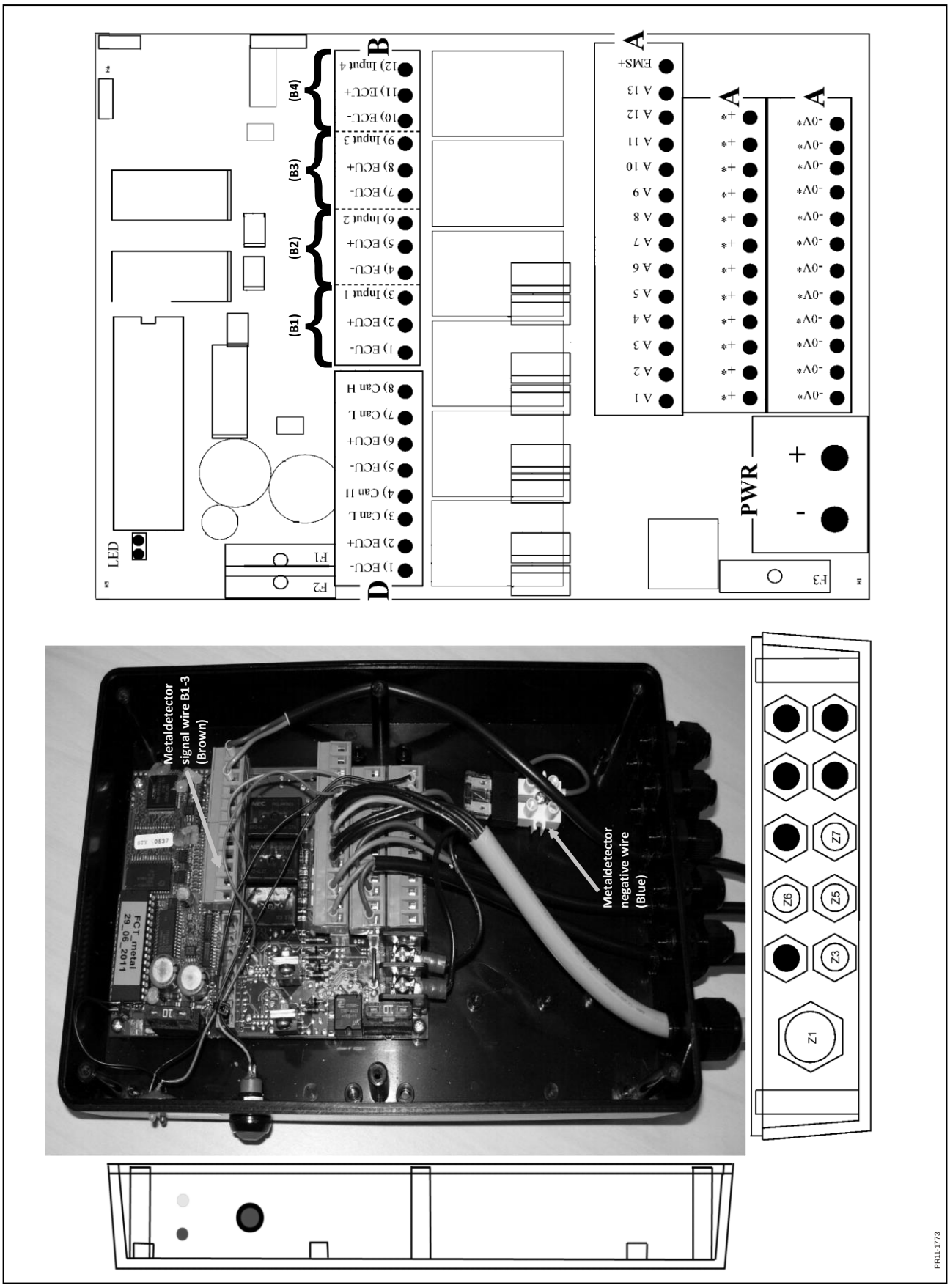
CONTROL BOX


1
1.2
1.1
2
2.2
2.1
3
3.2
3.1
R
6.1
6.5
4
6.7
6.8
6
5.1
N
6.3
6.4
5
6.2
6.6
5.2
I
7
8
9
ON/
OFF
10
PR11-1762

CONTROL SYSTEM FOR THE MACHINE



MD CONTROL


B
A
A
A
D
(B4)
(B3)
(B2)
(B1)
12) Input 4
11) ECU+
10) ECU-
9) Input 3
8) ECU+
7) ECU-
6) Input 2
5) ECU+
4) ECU-
3) Input 1
2) ECU+
1) ECU-
8) Can H
7) Can L
6) ECU+
5) ECU-
4) Can H
3) Can L
2) ECU+
1) ECU-
EMS+
A 13
A 12
A 11
A 10
A 9
A 8
A 7
A 6
A 5
A 4
A 3
A 2
A 1
+*
-0V*
PWR
+
-
LED
F1
F2
F3
Metaldetector signal wire B1-3 (Brown)
Metaldetector negative wire (Blue)
FCT_metal 29_06_2011
Z7
Z6
Z5
Z3
Z1
PR11-1773

CONTROL SYSTEM FOR THE MACHINE - WIRING

					Signal type				Wire connections						Prewired (Y/N)
Function category	Functional description	Multi-cable wire n°	Souriau connection	Connection print PCB n° IN	In-Dig	In-Ana	Out-D	Out-A	Connection print PCB n° OUT	Signal terminal wire colour	Positive Terminal wire colour	Negative Terminal wire colour	Length (m)	Gland Position	Label	Comment	
Joystick LED 9	Led Power ON - System Power indicator								JP8_7			Blue				Mounted on joystick PCB	
Internal power	0 volt power supply for Metal detector															Souriau plug - pin A	
Internal power	+12 volt power supply Metal detector (ON/OFF switch via main relay)								JP2_7			Red				Souriau plug - pin B	
MD input	V5a input from MD			JP6_3 Orange												Double function MD/Onboard - Souriau plug - pin C	
MD input	V0 input from MD			JP9_1 Yellow												Double function MD/Onboard - Souriau plug - pin D	
Joystick power	0 volt power supply	1	A						JP6_1								
Joystick power	+12 volt power supply (main relay)	2	B						JP2_1							Multiple cores to ensure power supply	
Joystick power	+12 volt power supply (main relay)	3	C						JP2_2								
Joystick power	+12 volt power supply (main relay)	4	D						JP2_3								
Joystick power	+12 volt power supply (main relay)	5	E						JP2_4								
Joystick power	+12 volt power supply (main relay)	6	F						JP2_5								
Joystick power	+12 volt power supply (main relay)	7	G						JP2_6								
Joystick Led 7	MD ON Green LED placed in Joystick Cabinet	8	H													Status LED from MD -Souriau plug - pin E Coverage for LED when delivered w/o MD	
Joystick Led 8	MD STOP Red LED placed in Joystick Cabinet	9	J													Status LED from MD -Souriau plug - pin E Coverage for LED when delivered w/o MD	
	Clutch Guard - Yellow LED placed in Joystick	10	K													Status LED from MD - Souriau plug - pin G	
Joystick sw 10	FCT Onboard ON/OFF (main relay)	11	L	JP6_2												Supply for JP1 & JP2	
Joystick 6.3 / (6.7)	Joystick Left V4B /(V1A)	12	M	JP9_4			2		JP3_3/(5)	Brown		Blue	1,0	Z11 / (Z18)	V4B /(V1A)	2x0,75mm² with valve connector	Y
Joystick 6.4 / (6.8)	Joystick Right V4A / (V1B)	13	N	JP9_5			2		JP3_4/(6)	Brown		Blue	1,0	Z12 / (Z17)	V4A / (V1B)	2x0,75mm² with valve connector	Y
Joystick 6.2 / (6.6)	Joystick Down V3B / (V2A)	14	P	JP9_7			2		JP3_7/(9)	Brown		Blue	1,0	Z13 / (Z16)	V3B / (V2A)	2x0,75mm² with valve connector	Y
Joystick 6.1 / (6.5)	Joystick Up V3A / (V2B)	15	R	JP9_8			2		JP3_8/(10)	Brown		Blue	1,0	Z14 / (Z15)	V3A / (V2B)	2x0,75mm² with valve connector	
Joystick top button	Joystick top button primary/(secondary) function	16	S	JP9_2													Y
Joystick sw 5.2	V6 Valve	17	T	JP4_8			1		JP5_8	Brown		Blue	1,0	Z9	V6	2x0,75mm² with valve connector	Y
Joystick sw 5.1	V5a Valve	18	U	JP6_4			1		JP5_10	Brown		Blue	1,0	Z8	V5a	2x0,75mm² with valve connector	Y
Joystick sw 4	V5b Valve	19	V	JP4_9			1		JP5_9	Brown		Blue	1,0	Z7	V5b	2x0,75mm² with valve connector	Y
Joystick sw 3.1	V12a Valve	20	W	JP4_1			1		JP5_1	Brown		Blue	1,0	Z2	V12a	2x0,75mm² with valve connector	Y
Joystick sw 3.2	V12b Valve	21	X	JP4_2			1		JP5_2	Brown		Blue	1,0	Z1	V12b	2x0,75mm² with valve connector	Y
Joystick sw 2.1	V11a Valve	22	Y	JP4_3			1		JP5_3	Brown		Blue	1,0	Z4	V11a	2x0,75mm² with valve connector	Y
Joystick sw 2.2	V11b Valve	23	Z	JP4_4			1		JP5_4	Brown		Blue	1,0	Z3	V11b	2x0,75mm² with valve connector	Y
Joystick sw 1.1	V10a Valve	24	a	JP4_5			1		JP5_5	Brown		Blue	1,0	Z6	V10a	2x0,75mm² with valve connector	Y
Joystick sw 1.2	V10b Valve	25	b	JP4_6			1		JP5_6	Brown		Blue	1,0	Z5	V10b	2x0,75mm² with valve connector	Y
Internal	V0 Valve - Master valve (ex. V6)						1		JP5_1	Brown		Blue	1,0	Z10	V0	2x0,75mm² with valve connector	Y
Power	Power cable												10,0	L2		4x2,5mm² with Cobo plug	Y
Connection	Multicable												10,0	L4		25x0,75mm² w/Souriau connection	Y
Fuse	Fuse 10 Amp for +12V			F1													
Fuse	Fuse 10 Amp for -0V			F2													

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MD CONTROL - WIRING

			Signal type					Wire connections							
Category	Functional description	Souriau connection	In-Dig	In-Ana	Out-D	Out-A	Type comment	Terminal number	Signal terminal wire colour	Positive Terminal wire colour	Negative Terminal wire colour	Length (m)	Gland Position	Label	Comment	Prewired (Y/N)
Machine	SP1 - MD release					1	Operated as ON/OFF output	A1	Blue	Brown		4,0	Z3	SP1	2x0,75mm² with valve connector	Y
						1		A2								
Hydraulic	V8 hydraulic valve					1	Operated as ON/OFF output	A3	Blue	Brown		1,0	Z5	V8	2x0,75mm² with valve connector	Y
						1		A4								
Joystick	Green LED placed in Joystick Cabinet (7).	E			1			A5	5						7*1,5mm² w/Souriau plug - pin E	Y
Joystick	Red LED placed in Joystick Cabinet (8).	F			1			A6	6						7*1,5mm² w/Souriau plug - pin F	Y
Joystick	Yellow LED placed in Joystick Cabinet. (Clutch alarm)	G			1			A7	Yellow/Green			1,5	Z1		7*1,5mm² w/Souriau plug - pin G	Y
Hydraulic	V5a - Valve	C			1			A8	3						7*1,5mm² w/Souriau plug - pin C	Y
Hydraulic	V0 - Valve	D			1			A9	4						7*1,5mm² w/Souriau plug -pin D	Y
Jobcomputer box	Metaldetector function activated LED				1			A10							LED placed in Jobcomputer blackbox	Y
Jobcomputer box	De-activation of metaldetector-function		1					A11							Push switch placed in Jobcomputer blackbox	Y
Machine	Clutch sensor (S3)		1					A12	Black	Brown	Blue	5,0	Z9	S3	Inductiv Sensor	N
			1					A13/EM.S								
Machine	Metaldetector		1					B1-3	Brown	Blue (ext. fusk.)		5,0	Z6	MD	2x0,75mm² with connectors + shield	N
Machine	Metaldetector/Rockdetector 2		1					B2-6								
Machine	Clutch sensor ref(S2)		1					B3-9	Black	Brown	Blue	5,0	Z8	S2	Inductiv Sensor	N
Machine	Reverse sensor (S1)		1					B4-12	Brown		Blue	5,0	Z7	S1	REED Sensor	Y
Power	Supply power Wire 1	A						Power -				1,5	Z1		7*1,5mm² w/Souriau plug - pin A	Y
Power	Supply power Wire 2	B						Power +							7*1,5mm² w/Souriau plug - pin B	Y
Power	0 volt power supply for monitor															
Power	+12 volt power supply for monitor															
COM	CAN Low							CAN Low								
COM	CAN High							CAN High								
Fuse	Fuse 10Amp for sensor input B1-4							F2								
Fuse	Fuse 10Amp for output A1-10							F3								

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DIAGRAMS

The figures above show the hydraulic and electric diagrams for the machine. This enables you to follow the wiring system between the components, e.g. when maintaining or replacing cables and hydraulic hoses.

FAULT FINDING (MD)

The most commonly occurring faults for the (metal detector) system are described in the table below. The table describes the possible cause and how you can remedy it yourself.

CAUTION: **If you are in any doubt about how to deal with a potential fault in the MD system, always contact a KONGSKILDE dealer or KONGSKILDE importer for professional guidance. This avoids you running the risk of using a defective system.**

Problem	Possible cause	Remedy procedure
The electronics are not activated when the control box is turned on using the switch on the side.	1) There is no power supply. 2) A fuse has blown in the machine's control system. 3) Damage to one or more of the cables has caused a short circuit.	1) Check and/or establish the power supply from the tractor. 2) Replace the fuse(s). 3) Check cable connections and repair/correct if necessary.
No metal is detected when the MD system is checked with magnetic metal between the front rollers before starting, or metal passes through the feed intake section without being detected.	1) Fault or defect on the magnetic tub. 2) The wire connection to the magnetic tub is defective. 3) The metal detector is turned off.	1) Return the magnetic tub to Kongskilde for adjustment or replacement. 2) Correct/repair defects on the wire connection. 3) Turn on the metal detector.
Metal reaches the rotor despite being detected and the feed intake stopping.	The distance between the pawl and the ratchet wheel is too great, and the wheel revolves too much before the pawl becomes meshed.	Adjust the distance between the pawl and the ratchet wheel with the adjusting screw above the coil. The distance must be approximately 1 mm and a maximum of 2 mm.

Problem	Possible cause	Remedy procedure
The machine does not respond to the control box.	1) The control system is not switched on. 2) There is no oil flow.	1) Switch on the control system. 2) Establish constant oil flow from the tractor.
It is not possible to adjust the reverse system to the position for normal feed in after reversing.	There is a fault on the contact element adjacent to the nylon disc on the automatic clutch. The contact element must reset the electrical system upon reversing so that the machine can operate again.	Replace the contact element on the automatic clutch.
Although normal feed intake position is established, the pawl is still meshed.	Fault in the wire for the coil.	Repair or replace the wire.
Metal is detected, but there is no metal in the feed intake section.	1) The adjustment of the magnetic field from the magnetic tub has been altered. 2) There are loose metal parts/swarfs in the roller which are disturbing the magnetic field. 3) The power supply from the tractor is insufficient. The MD system "consider" reduced voltage drops (under 8 V) to be interference, i.e. metal detection.	1) Disconnect the magnetic tub and send it to Kongskilde for adjustment. 2) Clean the roller and the tub of loose metal parts/swarfs. 3) Check if the voltage supply from the tractor is correct – 12 V.

13 WARRANTY

Your machine is warranted according to legal rights in your country and the contractual agreement with the selling dealer. No warranty shall, however, apply if the machine has not been used, adjusted and maintained according to the instructions given in this operator's manual.
It is prohibited to carry out any modifications to the machine unless specifically authorized, in writing, by a NEW HOLLAND representative.

EF-overensstemmelseserklæring/ EG-Konformitätserklärung/ EC Declaration of Conformity/ Déclaration CE de conformité/ Dichiarazione CE di conformita/ EG Verklaring van Overeenstemming/ EG-försäkran om överensstämmelse/ EY-vaatimustenmukaisuusvakuutus/ Declaración de conformidad CE/ Deklaracja Zgodności WE./ Декларация за съответствие ЕО/ EK Megfelelőségi Nyilatkozat /ES Prohlášení o shodě/ EB Atitikties deklaracija/ ES prehlásenie o zhode/ Declaraţia de conformitate CE/ Vastavuse Deklaratsioon EÜ /ES Izjava o skladnosti/ Δήλωση πιστότητας ΕΚ/ Declaração de fidelidade CE/ Dikjarazzjoni ta' Konformità tal-KE/ EK Atbilstības deklarācija/

Fabrikant/ Hersteller/ Manufacturer/ Fabricant/ Produttore/ Fabrikant/ Fabrikant/ Valmistaja/ Fabricante/ Producent/ Производител/ Gyártó/ Výrobce/ Gamintojas/ Výrobca/ Producător/ Tootja/ Proizvajalec/ Κατασκευαστής/ Fabricante/ Fabbrikant/ Ražotājs

CNH INDUSTRIAL BELGIUM N.V.

Leon Claeysstraat 3a, 8210 Zedelgem, BELGIUM

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Erklærer hermed, at/ Erklären hiermit, daß/ Hereby declare that/ Déclare par la présente que/ Dichiara che/ Verklaren hierbij dat/ Försäkrar härmed, att/ Vakuuttaa täten, että tuote/ Por el presente declara que/ Niniejszym deklaruje, że/ Декларирам, че/ Az alábbiakban kijelentem, hogy/ Tímto prohlašuje, že/ Deklaruoja, kad/ Týmto prehlasujeme, že/ Prin prezenta declar că/ Alljärgnevaga deklareerib, et/ Izjavljamo, da je/ Με το παρόν δηλώνω ότι/ Abaixo declara que **/** Jiddikjaraw li / Apstiprinu, ka

Maskine:	La máquina:	Masin:
Maschine:	Maszyna:	Stroj:
Machine:	Машината:	Η μηχανή:
Machine:	Gép:	Máquina:
La macchina:	Stroj:	Il-magna:
Machine:	Mašina:	Mašīna:
Maskin:		Stroj:
Laite:		Maşina:

KONGSKILDE

Model/Type**: FCT 1060**
Designation: Harvester
Serial:

- er i overensstemmelse med Maskindirektivets bestemmelser (Direktiv 2006/42/EF) og hvis relevant også bestemmelserne i EMC-direktivet 2014/30/EU.

- In übereinstimmung mit den Bestimmungen der Maschinen-Richtlinie 2006/42/EG und wenn erforderlich auch mit der EMC-Richtlinie 2014/30/EU hergestellt wurde.

- is in conformity with the provisions of the Machinery Directive 2006/42/EC and if relevant also the provisions of the EMC Directive 2014/30/EU.

- est conforme aux dispositions de la Directive relatives aux machines 2006/42/CE et également aux dispositions de la Directive sur la Directive EMC 2014/30/UE.

- é in conformita' con la Direttiva Macchine 2006/42/CE e, se pertinente, anche alla Direttiva alla Direttiva EMC 2014/30/UE.

- in overeenstemming is met de bepalingen van de Machine richtlijn 2006/42/EG en wanneer relevant ook met de bepalingen van de EMC richtlijn 2014/30/EU.

- är i överensstämmelse med Maskindirektivets bestämmelser (Direktiv 2006/42/EG) ock om relevant också bestämmelserne EMC-direktivet 2014/30/EU.

- täyttää Konedirektiivin (Direktiivi 2006/42/EY) määräykset ja oleellisilta osin myös EMC-direktiivin 2014/30/EU.

- es conforme a la Directiva de Maquinaria 2006/42/CE y, si aplica, es conforme también a la Directiva EMC 2014/30/EU.

- pozostaje w zgodzie z warunkami Dyrektywy Maszynowej 2006/42/WE i jeżeli ma to zastosowanie również z warunkami Dyrektywy dot. kompatybilności elektro magnetycznej EMC 2014/30/UE.

- отговаря на изискванията на Директивата за Машините 2006/42/ЕО и ако има приложение на изискванията на Директивата за електромагнитна съвместимост 2014/30/ЕС.

- Megfelel a 2006/42/EK Gépi Eszközökre vonatkozó előírásoknak és amennyiben felhasználásra kerül, a 2014/30/EU Elektromágneses kompatibilitás Irányelv feltételeinek.

- odpovídá základním požadavkům Strojní směrnice 2006/42/ES a jestliže to její uplatnění vyžaduje i s podmínkami Směrnice 2014/30/EU týkající se elektromagnetické kompatibility.

- atitinka Mašinų direktyvos Nr. 2006/42/EB ir, jeigu taikoma, Elektromagnetinio suderinamumo direktyvos Nr. 2014/30/ES reikalavimus.

- je v súlade s podmienkami Smernice 2006/42/ES o strojných zariadeniach a pokiaľ si to jeho uplatnenie vyžaduje aj s podmienkami Smernice 2014/30/EÚ o elektromagnetickej kompatibilite.

- îndeplineşte prevederilor Directivei de Maşini 2006/42/CE şi dacă este utilizată de asemenea cu prevederile Directivei referitoare la compatibilitatea electro-magnetică EMC 2014/30/UE.

- on vastavuses Masinate Direktiivi tingimustega 2006/42/EÜ ning sammuti juhul, kui on tegemist sammuti on vastavuses Elektromagnetilise kokkusobivuse Direktiivitingimustega EMC 2014/30/EL.

- z določili Direktive o strojih 2006/42/ES ter, če je to relevantno, tudi z določili EMC Direktive 2014/30/EU.

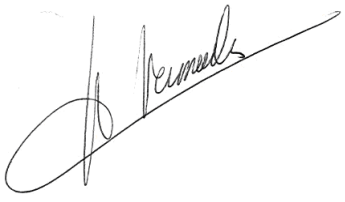
- παραμένει σύμφωνη με τους όρους της Οδηγίας περί Μηχανών 2006/42/ΕΚ και σε περίπτωση που αυτό εφαρμόζεται και με τους όρους της Οδηγίας περί ηλεκτρομαγνητικής συμβατότητας (ΗΜΣ) 2014/30/ΕΕ.

- Está de acordo com exigências das Directivas das Maquínarias 2006/42/CE e no caso em que tiver igualmente aplicação com as exigências das Directivas referentes a compatibilidade electromagnética EMC 2014/30/UE.

- tikkonforma mad-dispożizzjonijiet tad-Direttiva dwar il-Makkinarju 2006/42/KE u jekk rilevanti wkoll mad-dispożizzjonijiet tad d-Direttiva EMC 2014/30/EU.

- atbilst mašīnu direktīvai 2006/42/EK, kā arī nepieciešamības gadījumā elektromagnētiskās saderības direktīvai EMC 2014/30/ES.

Zedelgem, date:



Antoon Vermeulen

Dealer's stamp

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Availability of some models and equipment builds varies according to the country in which the equipment is being used. For exact information about any particular product, please consult your Kongskilde dealer.

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