FROM MACHINE: 3481740
W150 491816

03487210 G-EN-230913-ER
TRANSLATION OF THE INSTRUCTION MANUAL

OPERATION, MAINTENANCE AND SPARE PARTS MANUAL

HYDRAULIC FEEDER

HF260EL + HF260EL-SM + HFC260

+ NO STRESS W150

EXCLUSIVELY FOR GRAB LOADER FEED!
MANUAL FEED PROHIBITED!

FARMI 260 + HF260EL-0 **FARMI 260 + HF260EL-SM** **FARMI 260 + HFC260**

PLEASE READ THE OPERATING AND MAINTENANCE INSTRUCTIONS OF THE FEED UNIT AND THE SEPARATE OPERATING AND MAINTENANCE INSTRUCTIONS OF THE CHIPPER BEFORE YOU OPERATE THE CHIPPER.

Farmi Forest Corporation
Ahmolantie 6
FIN-74510 Iisalmi, Finland
Tel. +358 (0)17 83 241
Fax. +358 (0)17 8324 372
www.farmiforest.fi

GENERAL DESCRIPTION AND INTENDED USE OF THE FEED UNITS

HF260-EL-0, HF260-EL-SM and HFC260 are feed units which are to be used together with the FARMI 260 chipper. The material to be cut is loaded into the feed units using a grab loader. The chipper and feed unit combination can also be mounted to a tractor which has no grab loader. In this case, another machine equipped with a grab loader must be provided to load the material to be chipped. It is strictly prohibited to manually load the material to be cut into one of the above-mentioned feed units! It is strictly prohibited to mount the feed units to other machines than the FARMI 260 chipper!

The feed units are equipped with hydraulically operated feed rollers which draw the material to be cut into the chipper. Apart from the feed roller, the HFC260 model has a conveyor feeder which ensures even more efficient material feeding. The feed units can be connected to the hydraulic system of the tractor or to the separate optional hydraulic unit HD11.

The feed units are operated via a manual control switch in the tractor's safety cab. This manual control switch is used to control the feed roller movements (forward and reverse) and, in case of the HFC260 model, also the movements of the conveyor feeder. Moreover, material feeding is stopped with this manual control switch. Pedal control (available as an option) can be substituted for the manual control switch. The pedals have the same function as the manual control switch but are operated by foot.

Each feed unit model is provided with an emergency stop switch. When pressing this switch, material feed is shut-down. The feed unit model HF260-EL-SM has an additional emergency stop bar on the edge of the feed opening. On this model, material feed can also be stopped at the front of the feed unit, but only in case of emergency. However, it is not permitted to re-start the material feeding function with the emergency stop bar.

There is a separate instruction manual for FARMI 260 chipper. Before operating the chipper, please read all pertinent instruction manuals. Store the instruction manuals of the chipper and of the feed unit at the same place.

PRODUCT WARRANTY

Farmi provides a 12-months warranty on all Farmi products.
Register on our home page (www.farmiforest.fi) under FeedBack ("Product Registration" form) within 30 days after the receipt of the product to get full product warranty and additional information on your product. If it is not possible for you to register via internet, please register as follows: Complete the registration form on the last pages of this manual and return it to us within 30 days after the receipt of the product.

TABLE OF CONTENTS

When ordering spare parts, please indicate machines type from the machine plate, spare parts order number, description and quantity required.
Example. HF260EL / SM, 43484180, Upper feed roller, 1 pc

WARNING SYMBOLS IN THIS MANUAL

- **imminent danger which could cause serious personal injury or death**

- **danger which could cause personal injury**

- **conditions or misuse that could damage equipment or machinery**

NOTE!

- **reminders, such as for performing checks or carrying out maintenance or repair procedures**

INTRODUCTION

This manual includes the information and maintenance instructions required for operating the machine in the optimal manner.

Although you have experience in using this kind of machinery, read the operation and maintenance instructions carefully since they include information enabling efficient and safe operation. Regular maintenance is the best way to guarantee the efficient and economical performance of the machine.

Each and every operator must read, understand, and follow all safety instructions and procedures.

CUSTOMER FEEDBACK

We are happy to receive your opinions and suggestions for improvements by mail, fax or e-mail. All implemented suggestions for improvements will be rewarded.

GENERAL SAFETY INSTRUCTIONS

These safety instructions are meant for the owners of FARMI equipment, as well as those who operate, service or repair it.

The instructions help with:

- using the machine safely, appropriately and effectively.
- identifying, avoiding and preventing potentially dangerous situations.

The manufacturer supplies an instruction manual, which must always be available at the place of operation of the machine. Each user must read the safety, maintenance and operating instructions before operating the machine, and comply with these instructions at all times.

Ensure that every operator of the machine is familiar with the content of the instruction manual and situation-specific safety instructions, and has been suitably trained before operating the machine.

The machine complies with technical requirements and applicable safety regulations. However, incorrect use, maintenance or repair of the machine may cause risks.

In addition to the instruction manual, remember to comply with regulations of the local occupational health and safety authorities, and with your country's laws and decrees.

The manufacturer is not liable for damages caused by:

- incorrect, negligent or inappropriate use of the product.
- non-original spare parts.
- normal wear and tear.
- misuse caused by an untrained person's improper actions.
- alterations made without the manufacturer's permission.

Written authorization must be requested from the manufacturer for any alterations to the machine.

STARTING

- Familiarize yourself thoroughly with the use, operation and controls of the machine and its equipment before starting.
- Familiarize yourself with the capacities and limitations of the machine and its equipment.
- Do not use the machine unless you are completely familiar with its operation.
- Be aware of the machine's danger zones.
- During operation, prevent bystanders from entering the danger zone.
- Ensure that each operator has the necessary safety equipment, such as a helmet, safety goggles, work safety boots and suitable protective clothing.
- Never wear loose clothing around moving parts. Protect long hair!
- Ensure that work is carried out according to the stipulations of applicable occupational health and safety legislation.
- Before starting up or using the machine, ensure that it cannot cause a risk to other people or property.
- Perform a safety check on the machine before every use. If you observe any faults or deficiencies, repair the machine immediately.
- Before operating the machine, ensure that there are no foreign articles in it.
- Place the machine on a hard, level surface for operation. In the winter avoid working in slippery areas.
- Before mounting and using the machine, check the PTO drive shaft for correct condition and attachment.
- Never use a faulty or deficient machine.

TRANSPORT

- Before driving with the machine, ensure the safe mounting of the machine. Make sure that the journals are seating correctly and that the pins are tight. Check the tension of the lower link stabilizers.
- Before driving with the machine, make sure that the required lamps and reflectors as well as the slow moving vehicle sign are attached correctly. Moreover, the lamps should be checked for correct functioning.
- Before driving with the attached machine, make sure that the hydraulic unit of the machine is depressurized (unless otherwise instructed in the operating instructions).
- When driving on public roads, always observe the valid traffic regulations. The travel speed must be adapted to the specific conditions.
- When driving, please take into consideration the additional mass resulting from the machine's weight. It may affect the reactions, the steerability and the braking function of the tractor.
- Please note that the machine rear sways when turning.
- Pay attention to the machine's height near bridges or other height restricting objects.
- When backing off, the machine may obstruct the rear view. Exercise extreme caution. If necessary, ask a flagman to help you; he can indicate the required distances.
- It is prohibited for other people to ride on the machine.

OPERATION

Many occupational accidents take place in abnormal circumstances. Therefore it is important to take into account all the possible circumstances that may arise during operation of the machine.

- Depending on the machine's type, it will have diverse safety devices and protectors. These are meant to protect the machine and its operator, and they must never be removed or altered. Never start up or use the machine without all the safety devices and protectors in place. Also check the universal joint's safety equipment and joins.
- Never insert any body part into the machine with the engine running.
- If any faults arise that may jeopardize occupational safety, turn off the machine.
- During operation, the machine's operator is responsible for safety in the whole work area. Work may not be carried out in the presence of any factors that jeopardize occupational safety.
- Exercise extreme caution when hitching / unhitching the machine from a tractor/trailer.

The machine's operator must have constant, unobstructed visibility of the work area. If this is not possible, the operator must work with an assistant.

- Look out for moving parts when the machine is in operation.
- Secure the machine against unauthorized and accidental operation (e.g. moving when parked) whenever it is left unattended.
- Never leave the machine running unattended.
- Avoid causing fast, stroke-like loading.
- Never exceed the given operating values.
- All safety and warning signs on and in the machine must be legible and intact.
- The machine may not be operated by persons who are unwell or under the influence of drugs or alcohol.

MAINTENANCE

- The machine may only be serviced and repaired by professionals.
- Electrical and hydraulic faults may only be repaired by authorized professionals.
- In cases requiring welding, contact the manufacturer.
- Turn off the tractor engine and disconnect the universal joint before beginning service or maintenance actions.
- Before any maintenance work, turn the main power switch of the tractor to OFF.
- Ensure that there is no pressure in the hydraulic system.
- Take out the key from the tractor's ignition for the duration of the servicing or maintenance. Check that the power is off from the machine you are working on.

- When servicing the machine, place it on a level surface and ensure that it cannot be moved.
- Observe the service intervals and annual safety inspections.
- All spare parts and equipment must fulfill the manufacturer's requirements. This can be guaranteed by using original parts.
- Put all safety devices back into place immediately once servicing or maintenance is complete.

When lifting the machine, check that the lifting/hoisting equipment is in perfect working order. Check the weight of the machine before lifting it. Choose lifting trajectories so that they do not cause any danger.

Many countries have specific legislation on lifting, hoisting cables and hoists. Always comply with local safety regulations.

OILS AND LUBRICATION

- Always use the oil types recommended by the manufacturer. Other types of oil may cause faults or improper operation of the equipment, which could lead to serious damage to people or property.
- Never mix different liquids or oils.
- Always follow the manufacturer's lubrication instructions.
- Use control equipment carefully until the hydraulic oil has had time to reach its operating temperature.

SAFETY INSTRUCTIONS FOR HYDRAULIC CIRCUITS

1. Work on hydraulic equipment may only be carried out by professional hydraulic engineers.
2. Be cautious when using the equipment in cold conditions.
3. Check the machine for leaks. Do not use the machine if there is a leak from any system. Check all hydraulic hoses – particularly those which are bent during use – and replace any that are in poor condition or have leaks. Ensure that all joins are tight and that the lines are not damaged. Check that all protective caps and filler caps are closed properly. Check the hose sheathing for damage.
4. Check that all hose connectors, lengths and qualities comply with applicable requirements. When replacing or repairing hoses, use original parts or hoses and connectors recommended by the manufacturer. Check particularly that the pressure classes of the hoses and connectors are suitable to the operating pressure levels.
5. Check that all safety devices such as pressure relief valves, etc., are in place and work properly. Familiarize yourself with their use. Safety systems may never be bypassed.
6. Check the main hydraulic parts daily, and always after a fault. Replace any damaged parts immediately.
7. If a component is damaged, clean it before repairing it. Do not use solvents when cleaning parts.
8. Do not attempt to carry out repairs that you are not fully familiar with.
9. Never carry out repairs of the hydraulic circuit when the system is pressurized. When pressurized, the oil spray can penetrate the skin and cause mortal danger.
10. Never work below a device or component that is only being held up by hydraulics. Use separate supports when carrying our maintenance or repairs. Do not disconnect cylinders or their valves until the machine is well supported.
11. Most hydraulic oils do not evaporate easily. Risk factors include hot oil, spills and oil mist (pressurized).
12. If oil gets into your eyes, rinse with plenty of water and contact a doctor.
13. Avoid prolonged or repeated contact with your skin.
14. If sprays or contact with the skin cannot be avoided, use protective gloves, goggles and clothing as necessary. Do not use oily clothing.

15. Avoid discharging hydraulic oil into the environment, as it can pollute waterways and the groundwater. If biodegradable oil is to be used, please contact the manufacturer beforehand and have the suitability of your equipment for the operation with biodegradable oil confirmed by him before such oil is used.
16. Store the oil in sealed containers provided by the manufacturer. Try to transfer the oil directly from its container into the tank.
17. If the oil must be passed through other containers, ensure that they are completely clean. Caps, funnels, sieves and filling holes must also be clean.
18. Never store oil outdoors, as water could condense in it.
19. Always dispose of oil in a suitable container, never into the environment!

MAIN COMPONENTS

1. DIRECTIONAL CONTROL VALVE
2. LOW-REGULATING VALVE
3. ELECTRIC VALVE / SOLENOID VALVE
4. HYDRAULIC MOTORS
5. FEED ROLLERS
6. FEED UNIT FRAME
7. FEED CHUTE
8. NO STRESS DEVICE
9. ELECTRIC SYSTEM
10. SAFETY RELAY
11. MANUAL CONTROL SWITCH
12. EMERGENCY STOP SWITCH
13. EMERGENCY STOP BAR (HF260-EL-SM)

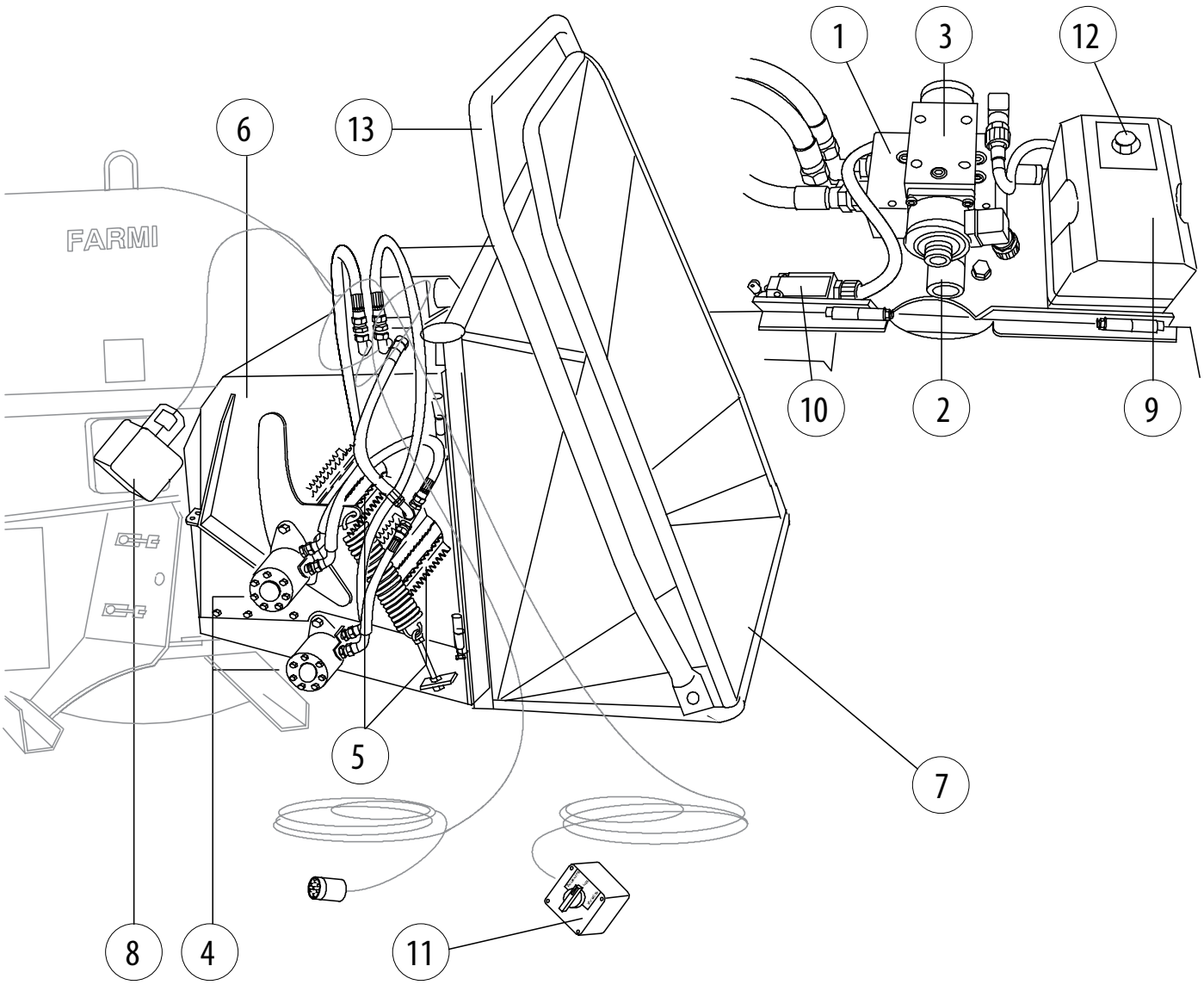
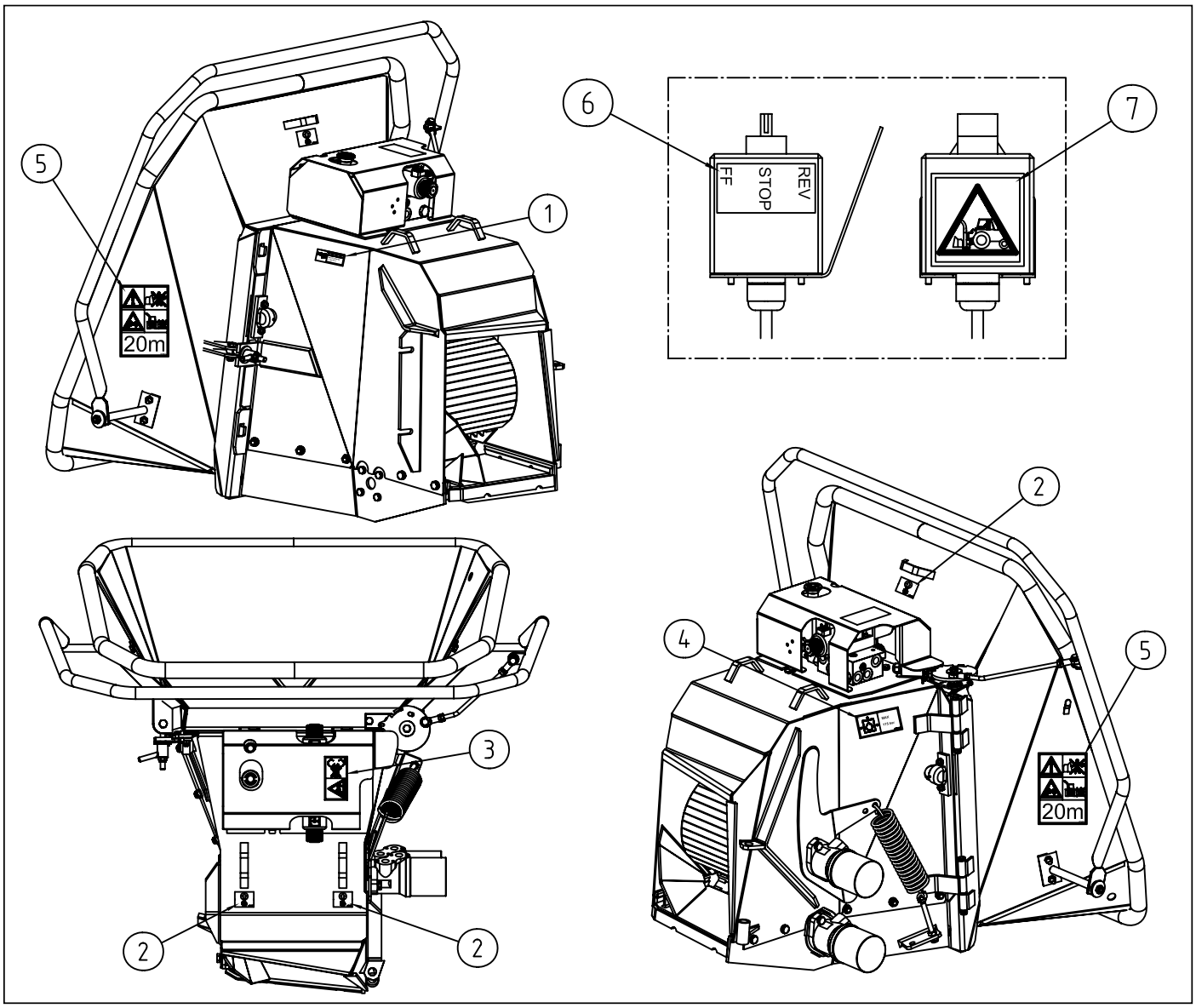


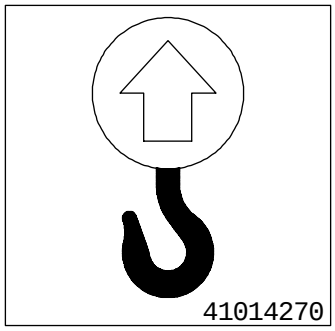
Fig 1. Main components

STICKERS AND PLATES

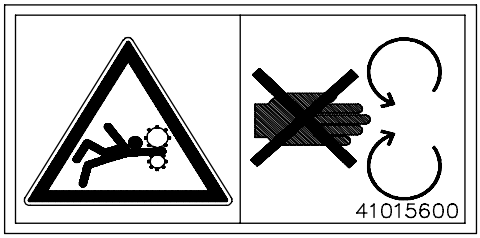
These plates and stickers must be attached to the machine. Missing plates or stickers must be replaced immediately.



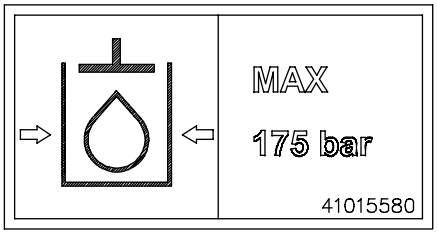
1. Manufacturer (40605214)



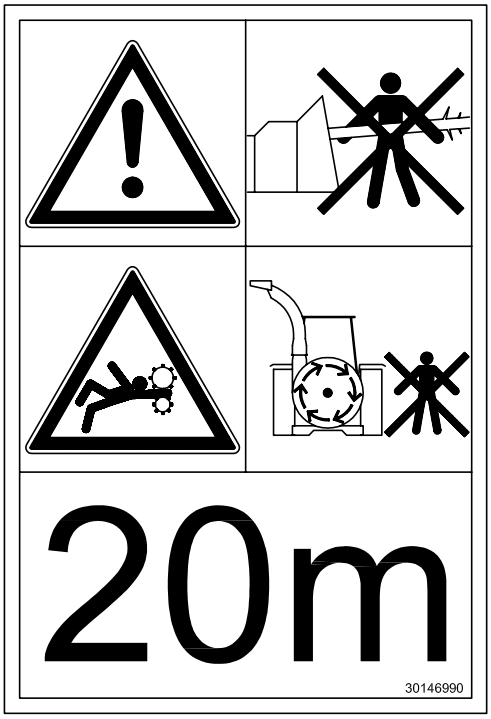
2. Lifting point (41014170) 3 pcs



3. Crushing hazard
Always keep a safe distance to rotating parts.
(41015600)



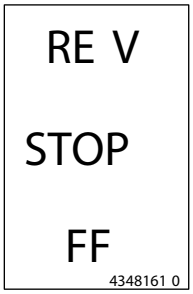
4. MAXIMUM Hydraulic pressure 175 bar
(41015580).



5. (30146990) 2 pcs
Caution!
The feed unit is designed for grab loader feed.
Manual loading is strictly prohibited!

It is strictly prohibited for the machine operators and other personnel to stay in the danger zone during operation.
There is a risk of being drawn into the feed unit and into the chipper.

With the machine in operation, the danger zone extends over 20 meters.



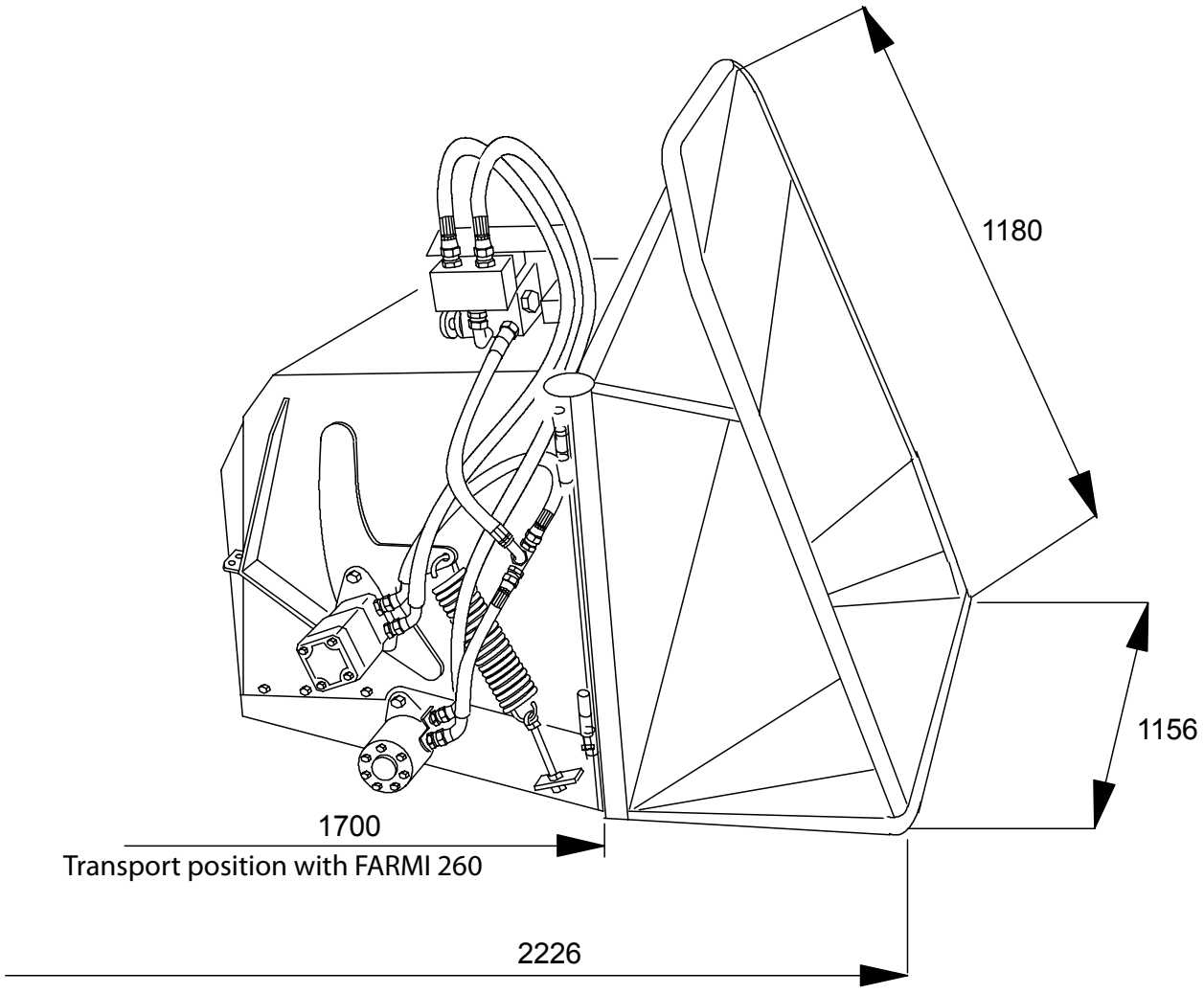
= REVERSE
= STOP
= FEED

6. Operating controls
Shows the functions of the switch which is located on the operating panel and is used to control the feed roller (43481610)

7. Operation from the driver seat in the tractor's safety cab (40147050)

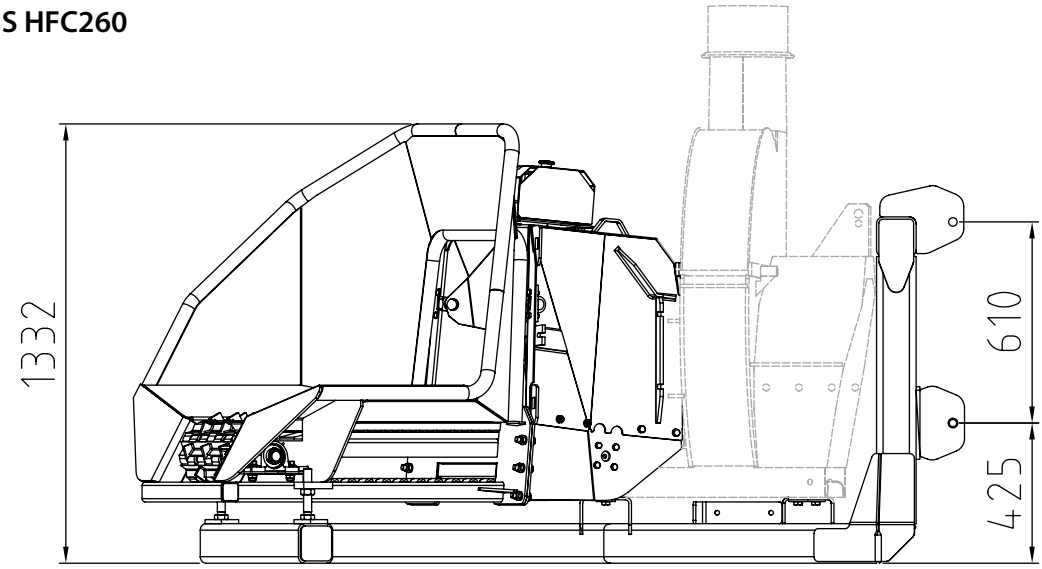
TECHNICAL DATA	HF260-EL-0 / HF260-EL-SM
Feed roller	ø280 mm + ø170 mm
Max. tree diameter	ø260 mm
Hydraulic motors	250 cm^3 + 400 cm^3
Max. working pressure	175 bar
Oil demand	15-50 l/min
Oil demand, P.T.O speed chip 20 mm, 540 rpm chip 20 mm, 1000 rpm	 20 l/min 37,2 l/min
Weight HF260-EL-0 HF260-EL-SM	 256 kg 262 kg

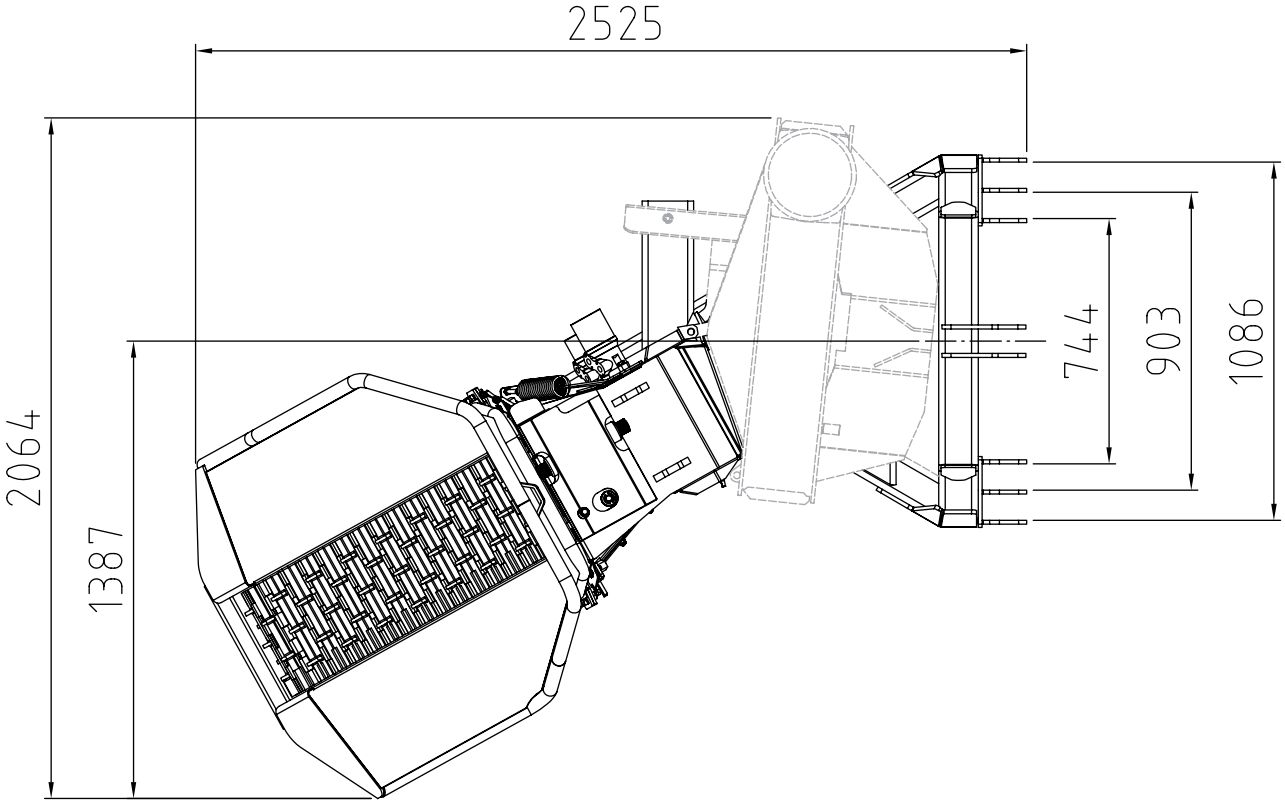
DIMENSIONS HF260-EL-0 / HF260-EL-SM



TECHNICAL DATA	HFC260
Feed roller	ø280 mm
Max. tree diameter	ø260 mm
Hydraulic motors	250 cm^3 + 400 cm^3
Max. working pressure	175 bar
Oil demand	15-50 l/min
Oil demand, P.T.O speed chip 20 mm, 540 rpm chip 20 mm, 1000 rpm	 20 l/min 37,2 l/min
Weight HFC260	 740 kg

DIMENSIONS HFC260





LIFTING

Lifting points for each machine are marked with hook symbols.

Lift only by using the proper type of lifting device, and ensure that it has an appropriate lifting capacity.

Check the lifting slings, cables, and chains regularly.

Ensure that you know the weight of the load to be lifted and never exceed the lifting capacity stated by the manufacturer of the lifting device.

Select routes for lifting so that the load is not transported over people or a location where people might be.

MOUNTING OF THE FEED UNIT

1. For the feed unit, a fitting block is supplied which is to be installed between the chipper and the feed unit. Please make sure to install the appropriate fitting block. The fitting block for the feed units HF260-EL and HFC260 has a height of approx. 180 mm. See fig. 4. The fitting block is installed on the pins in the bottom section of the feed opening. Carefully install the fitting block. Make sure the tip of the fitting block is seating tightly on the feed opening. Make sure the working surface is clean. Every time a knife is maintained or at least every 100 operating hours, check the system for vibration fatigue failure.
2. Always use a grab loader to mount the feed unit and always lift the feed unit at the marked positions. Lift the feed unit up to the height of the hinged plates of the chipper. Insert the hexagon head bolt M20x320 (A). Swing in the feed unit. Insert the safety bolts (B) of the feed unit into the feed unit's holes and then insert the locking pin (C) through the safety bolts and the lugs of the chipper. Tighten the M12 nuts (D) of the safety bolts. Securely tighten the two M20 nuts (E). For dismounting, reverse the steps described above. See fig 5.
3. Attach the feed hopper to the feed unit's frame using two M10x150 bolts. See fig. 6. Lock the feed hopper in its operating position. See fig 7.
4. Connect the hydraulic hoses. Connect the pressure hose (on valve P) to the hydraulic port of the tractor. The maximum operating pressure is 175 bars. Connect the return hose (T) to the return port of the two-way valve or, even better, directly to the tank. See fig 8.
5. On the HF260-EL-SM model, the adapter bar of the emergency stop bar is attached to the coupling disk at the position shown in fig. 9.

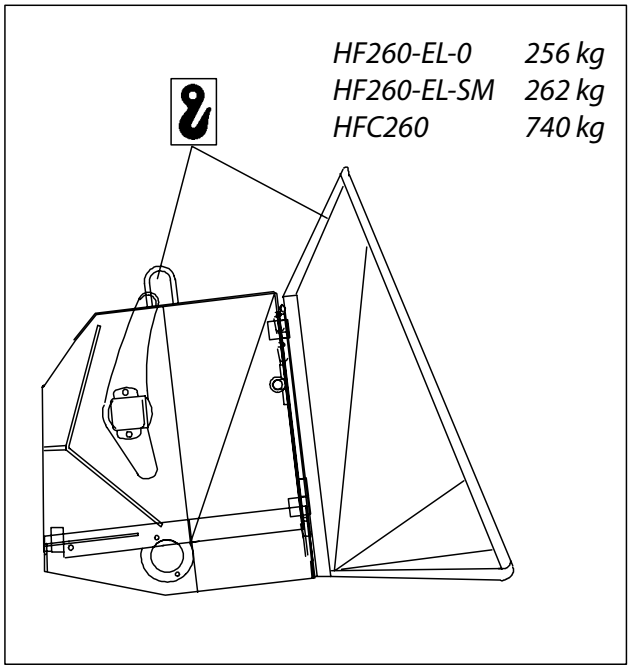


Fig. 3. Lifting points

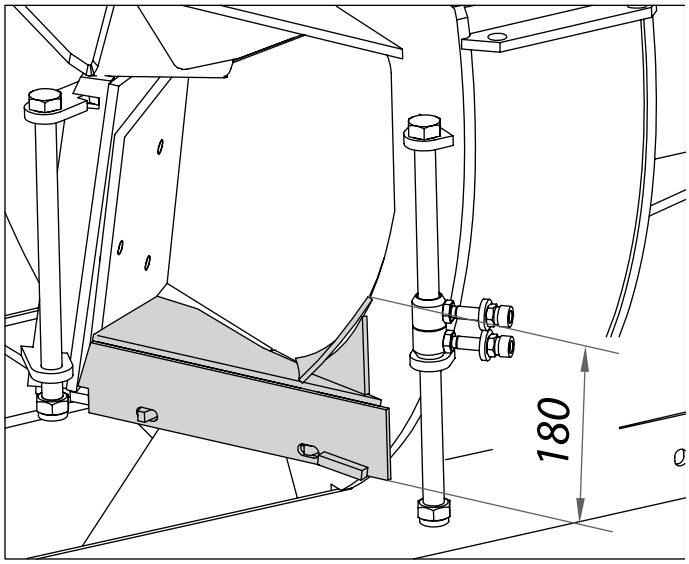


Fig. 4. Installing the adaptor piece

WARNING!

As long as the locking pin remains inserted, the safety bolts cannot loosen from the holes of the feed unit. The safety bolts cannot be removed without having removed the locking pin beforehand. Do not modify the structure of the feed unit in such a way that the safety bolts might slip out of the holes without having previously removed the locking pin.

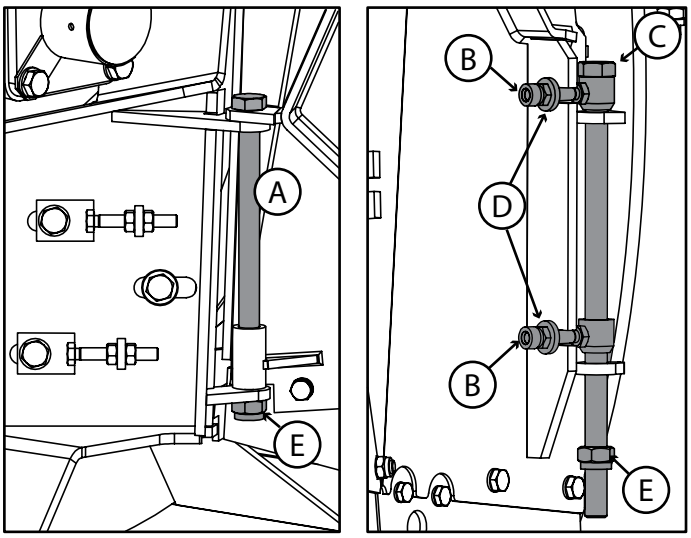


Fig. 5. Mounting the feeder on the chipper

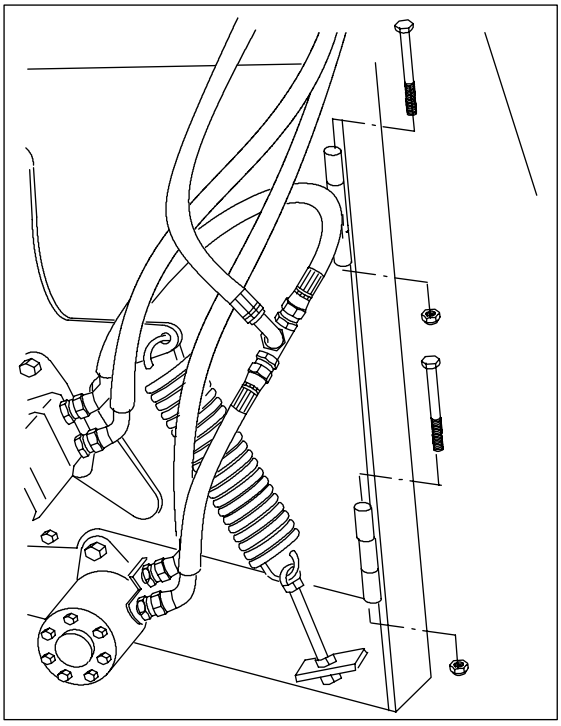


Fig. 6. Installing the hinge bolts

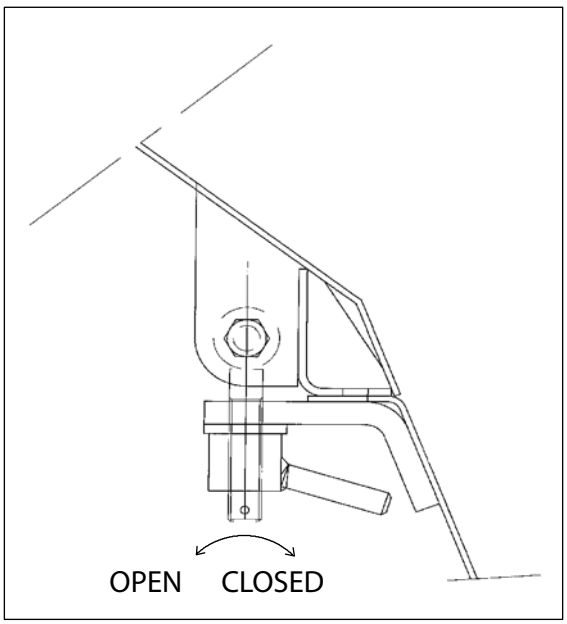


Fig. 7. Locking the feed chute in the operating position

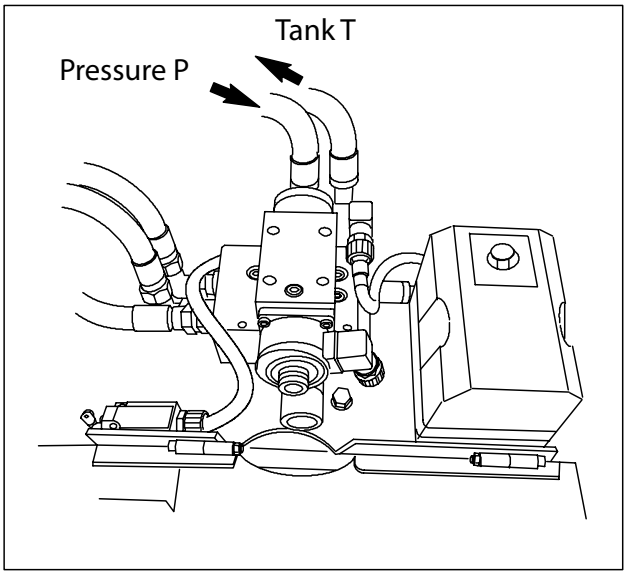


Fig. 8. Connecting the hydraulics

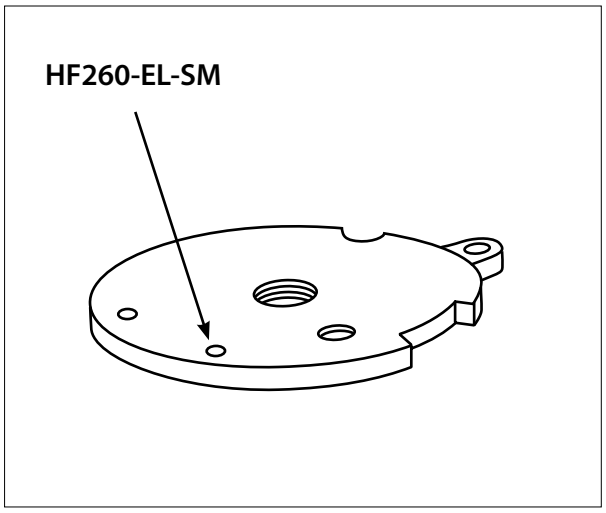


Fig. 9. Fastening of the emergency stop bar

FUNCTION OF THE OPERATING CONTROLS FOR THE FEED UNITS

Each feed unit model is provided with an emergency stop switch. When pressing this switch, material feed is shut-down (see fig. 10). The feed unit model HF260-EL-SM has an additional emergency stop bar on the edge of the feed opening. On this model, material feed can also be stopped by pushing or pulling the emergency stop bar in case of emergency (see fig. 13). After the emergency stop switch has been pressed or the emergency stop bar has been actuated, always set the manual control switch to STOP (FEED STOP). Otherwise, material feed cannot be re-activated.

Chippers designed for grab loader feed are operated from the driver seat in the tractor's safety cab. It is strictly prohibited to manually load a chipper which is designed for grab loader feed!

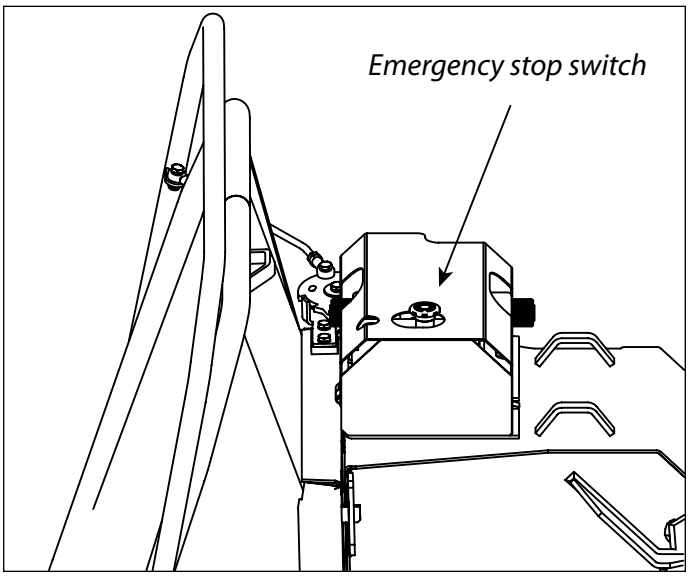


Fig. 10. Emergency stop switch

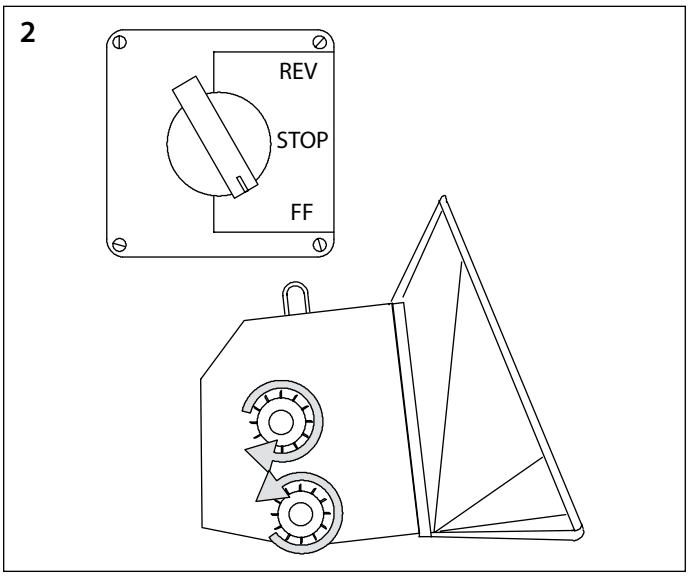


Fig. 12a. Feed

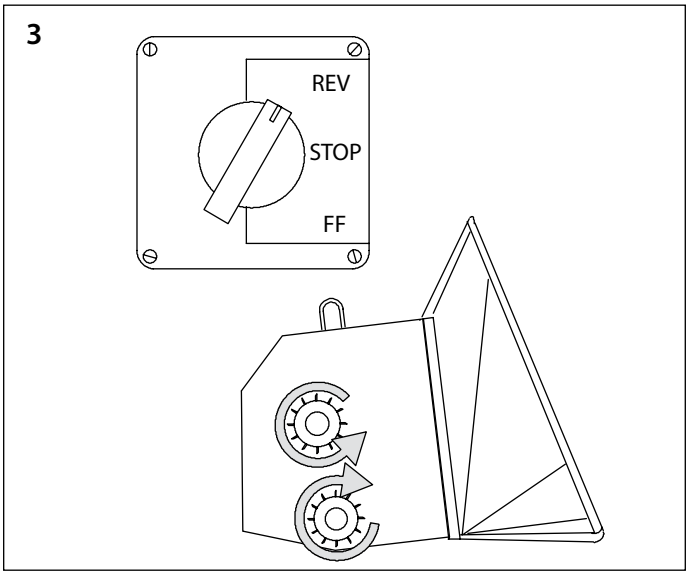


Fig. 12b. Reverse

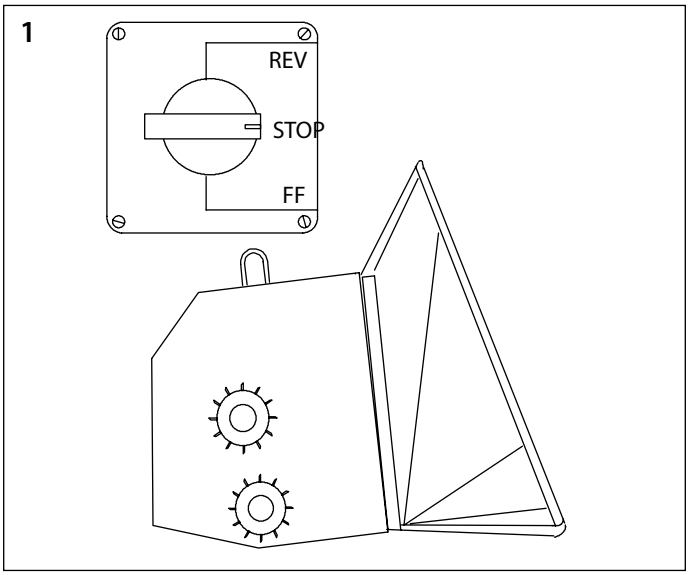


Fig. 11. Stopping the feed

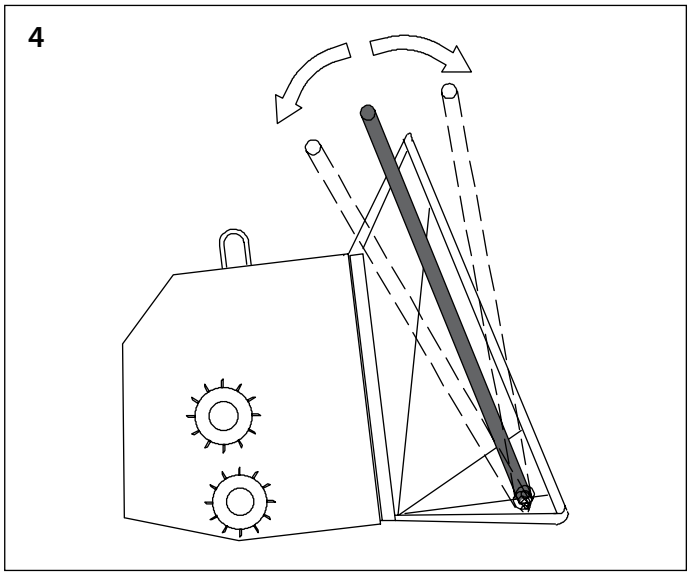


Fig. 13. Stopping the feed with the stop handle

Please observe the following safety instructions when operating a chipper which is fed by a grab loader:

- The danger zone of the chipper designed for grab loader feed is approx. 20 m.
- The chipper is operated from the driver seat in the tractor's safety cab.
- During operation, neither the operator nor other people may stay in the danger zone.
- Before engaging the tractor PTO and starting the feed unit, make sure no one is in the chipper's danger zone. During operation, the danger zone must be safeguarded to prevent unauthorized people from entering the danger zone If necessary, operation must be interrupted.
- Turn off the feed unit and disengage the tractor's PTO before you leave the safety cab.
- It is strictly prohibited to manually load a chipper which is designed for grab loader feed!
- The operator must wear the following personal protective equipment: ear protection, cut resistant safety boots and required protective clothing.

OPERATION OF THE FEED UNIT

- Start the chipper. Caution! See the instruction manual for FARMI 260:
- Set the manual control switch to FF, i.e. start material feed in forward direction. Caution! See section "Function of the operating controls for the feed units".
- If required, correct the feed speed. Caution! See section "Adjustment of the feed speed".
- Load the material to be cut into the feed hopper using a grab loader. Loosen the clamshell from the material as soon as the feed rollers have made contact and are drawing in the material. Don't re-feed the loaded material with the grab loader when the feed rollers are running.
- Only load small amounts of material to be chipped. Do not fill the feed hopper completely with material.
- If required, remove some of the material to be cut from the feed unit during the chipping process by setting the manual control switch to REV and thus starting the reverse feed. Hold the manual control switch in the REV position until the material has been released from the feed roller. Use the grab loader, if required. Caution! The material to be cut must not be drawn out of the feed unit using the grab loader if the manual control switch or the pedal is set to the FF or STOP position.
- When chipping large trunks or the like, the NO STRESS revolution control device stops the feed unit when it detects a drop in the cutting disk speed. If the suction of the chipper is too strong for the NO STRESS revolution control device to stop the feed completely, please use the grab loader to prevent the chipper from clogging.
- When chipping large trunks or the like without NO STRESS revolution control device, always interrupt the material feed in good time before the cutting disk speed may drop. For this purpose, set the manual control switch to STOP (FEED STOP). Please note that the cutting disk speed will drop further after material feed has been stopped. When the speed increases, continue to load material by setting the manual control switch to FF (FORWARD FEED).

Oil is heated when it flows through the hydraulic pump, motor, and valves.
Notable heating can occur if the tractor features a small hydraulic oil tank.
To prevent oil from overheating, check the oil temperature every 30 minutes. If the oil overheats, allow it to cool by stopping the chipping.

ADJUSTMENT OF THE FEED SPEED

The feed speed must be set with the chipper running. Please observe the following safety instructions:

- Never stand in front of the feed hopper! Set the feed speed when standing to the left of the feed unit.
- The feed speed must only be adjusted when the feed unit is idling. During the adjustment, material must not be loaded.
- Exercise extreme caution when adjusting the system. The emergency stop switch located next to the control valve is used to stop material feed in case of emergency.

Use the control valve to adapt the speed of the feed roller to the speed of the cutting disk.

- Turn the knob counterclockwise to increase the speed and turn in clockwise to decrease the speed. See fig 14.
- After having adjusted the feed speed, re-check it while observing the valid safety regulations.
- The feed speed is correctly adjusted when the material does not butt against the cutting disk or when the tips of the feed roller do not slow down the material feed.

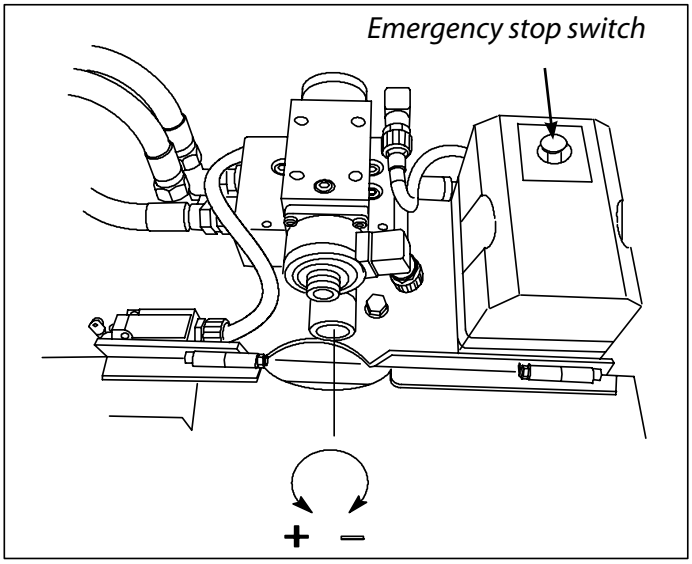


Fig. 14. Adjusting the feed roller speed

Feed roller speed in relation to chip length	
Chip length, mm	Upper feed roller speed at the PTO speed of 540 rpm
7	8,6
15	17,4
22	27

NO STRESS REVOLUTION CONTROL DEVICE

The NO STRESS revolution control device stops the feed unit when it detects a low cutting disk speed. This function brings about several benefits:

- Consistent chips are produced
- Unnecessary motor stops are avoided
- A motor with lower performance can be used
- The output is increased

The FARMI 260 chipper is equipped with NO STRESS revolution control device. This device monitors the cutting disk speed of the chipper and interrupts the material feed if the cutting disk speed drops under a preset value.

As soon as the cutting disk speed has regained the preset value, the feed rollers continue to feed the wood. The feed speed is thus adapted to the cutting disk speed. Consistent chips are achieved and the operator can focus on material loading.

INSTALLATION OF THE NO STRESS SENSOR

- Detach the chipper from the tractor.
- Insert the NO STRESS sensor into the hole (20 mm). The black tip of the sensor must be approx. 1-3 mm apart from the pin of the end plate. Turn the cutting disk to make the pin visible in the slot of the shaft guard. The distance between the sensor and the pin can be checked through the slot (see fog. 16a). If the sensor distance is correct tighten its fastening nuts.
- Connect the electronic system of the chipper to the tractor. The sensor LED lights up when the sensor distance is OK. If the LED doesn't light up move the sensor closer to the pin.

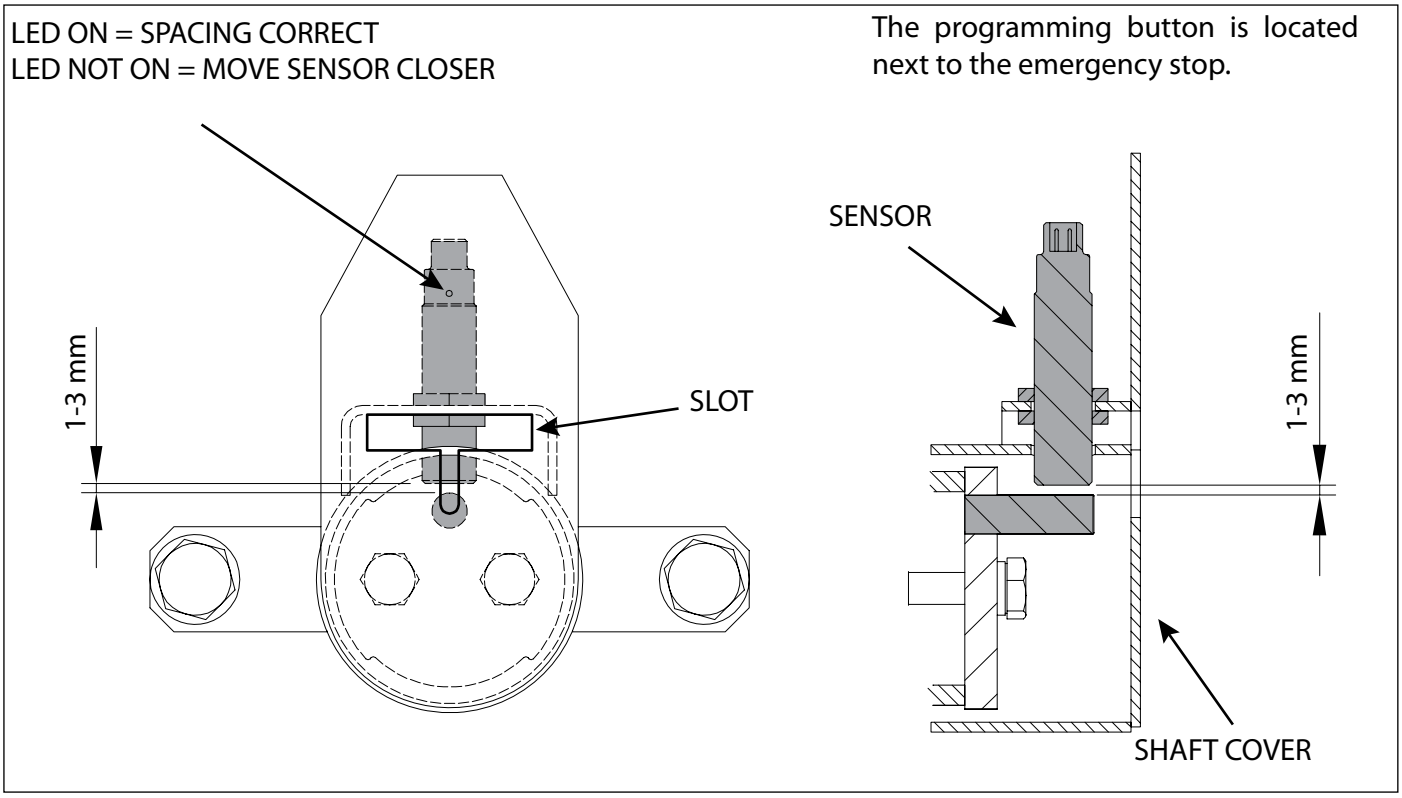


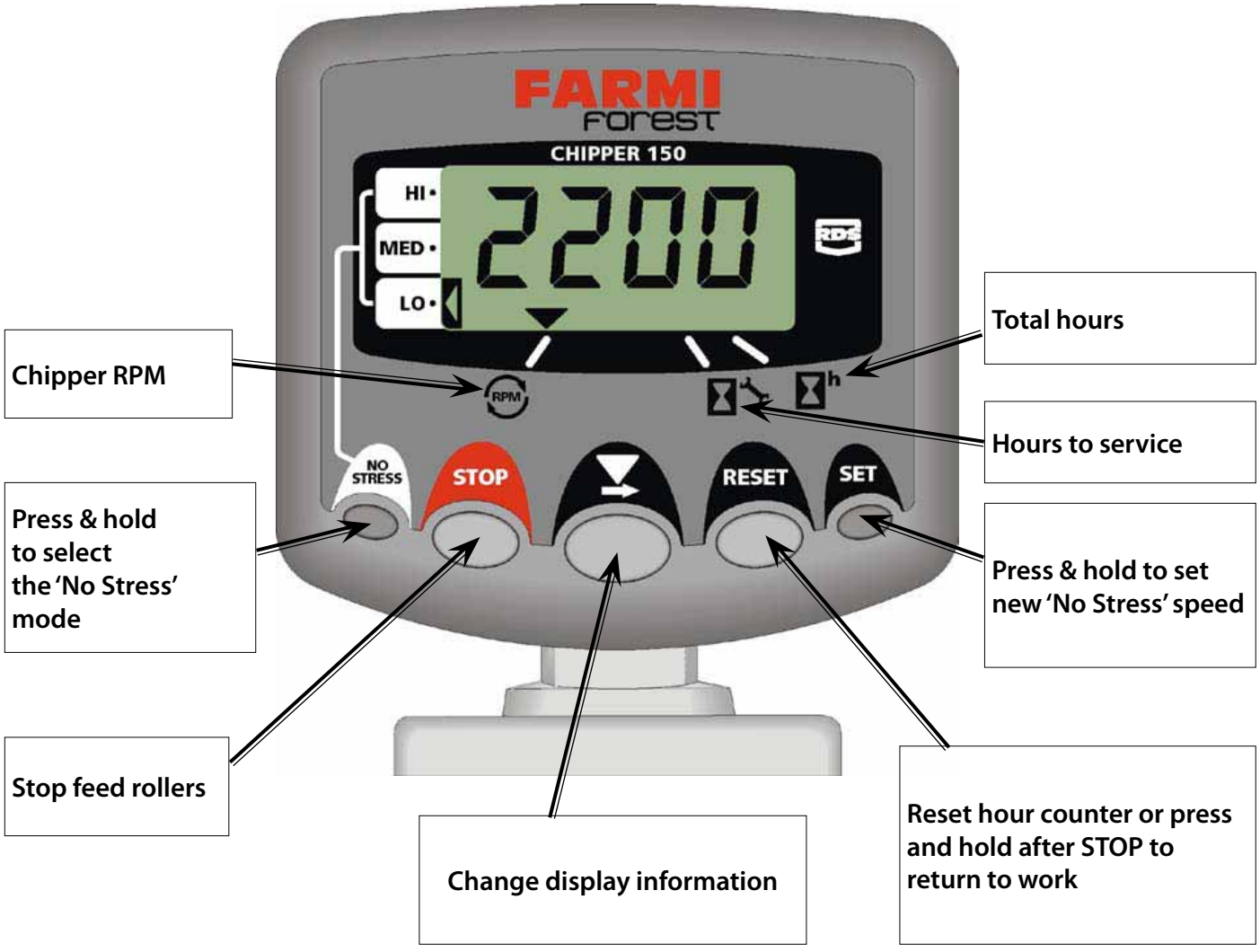
Fig 16a. No Stress adjustment

SETUP GUIDE W150 FOR FARMI FOREST CHIPPER

OVERVIEW

The instrument monitors the chipper RPM and 'No Stress' function will engage and disengage the feed rollers at a programmable threshold.

DISPLAY FUNCTIONS



Channel 2 – Chipper RPM
Shows the current chipper speed.

Channel 5 – Hours to machine service
Hour timer counts down to show when the next machine service is due.

Channel 6 – Total machine hours
Total hours that the machine has worked.

MACHINE SETUP

NO STRESS SPEED

For 'LO' the No Stress speed is currently set to 480 rpm, if this needs changing it can be programmed in 2 different ways:

1. Press and hold NO STRESS button and connect power to the instrument. The display will show CAL5 and the NO STRESS button can now be released. The first number shown is the 'LO' no-stress speed (default = 480 rpm). This is the RPM at which the feed rollers will stop rotating.

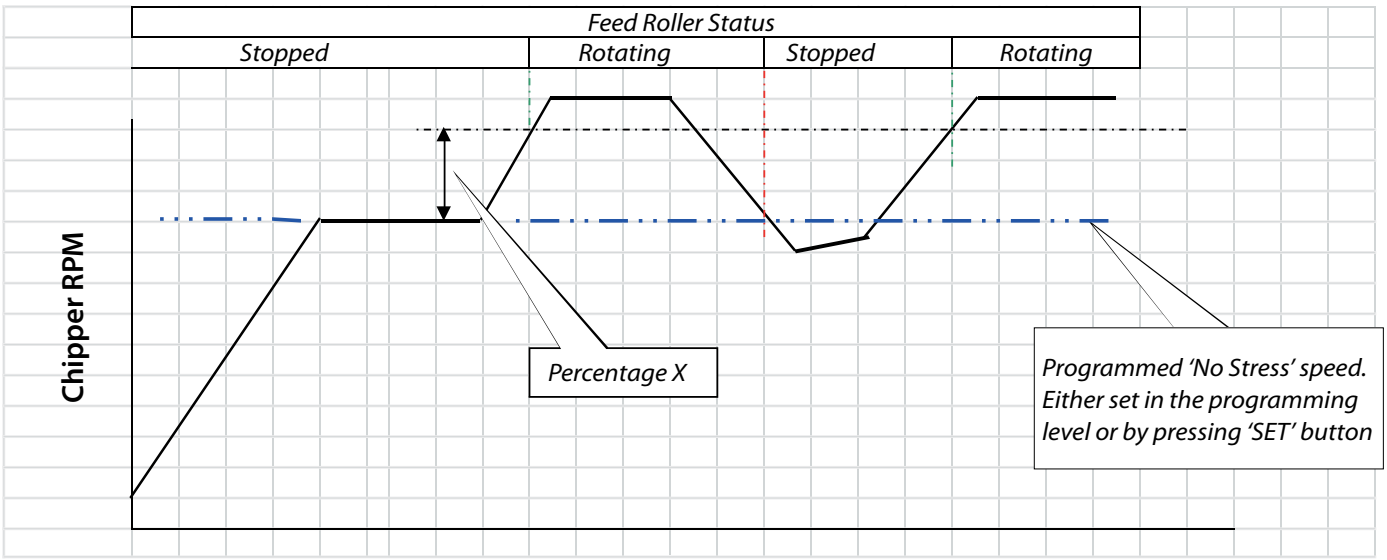
OR

2. When the chipper is rotating at the desired speed, press and hold SET for 5 seconds. Keep the button pressed until the number flashes and the instrument beeps and shows 'done'. This speed is now stored as the No Stress speed.

The MED and HI 'no-stress' speeds can also be set in programming mode 5 or by using the SET button when the chipper is rotating at the required No Stress speed.

When the speed is 0 the existing No Stress speed can be seen by pressing and holding the SET button.

NO STRESS OPERATION



Once the chipper speed has dropped below the no-stress speed, it must return to a certain RPM before the feed rolls are engaged again. This is expressed as a percentage of the no-stress speed. Currently set to 11% e.g if no-stress speed is 480 rpm, feed rolls will stop when chipper speed is <480 rpm and will only start to rotate again when speed reaches 480 + 11% = 530 rpm.

NO STRESS PERCENTAGE 'X'

To change the resume percentage 'X', press and hold STOP button for 5 seconds whilst on the chipper rpm channel. With STOP still pressed, pressing the middle button will increase the resume percentage. When the correct number is displayed, release all buttons.

FEED ROLLER REVERSE

When the feed rollers stop there will be delay (Feed rollers reverse delay) and then the rollers will reverse for 'Feed rollers reverse duration'.

By setting the 'Feed rollers reverse delay' to 0.0 seconds, the reverse function is turned off.

The reverse delay and duration can be adjusted in programming mode 3. To enter the programming mode press and hold the RESET button while turning the instrument on, keep the RESET button pressed for a further 10 seconds and the display will show CAL 3. Press the RESET button twice more and the display will show the reverse delay. This can be programmed by pressing and holding the middle button.

Pressing RESET again moves to the 'Feed roller duration' setting and this can be programmed in the same manner.

OPERATION

When the speed is greater than the 'No-Stress' speed + resume percentage then operation of the feed rollers is allowed.

Switch box operation is as follows:

For the feed rollers forward to be 'latched on' the switch must be held in the forward position for greater than 3 seconds.

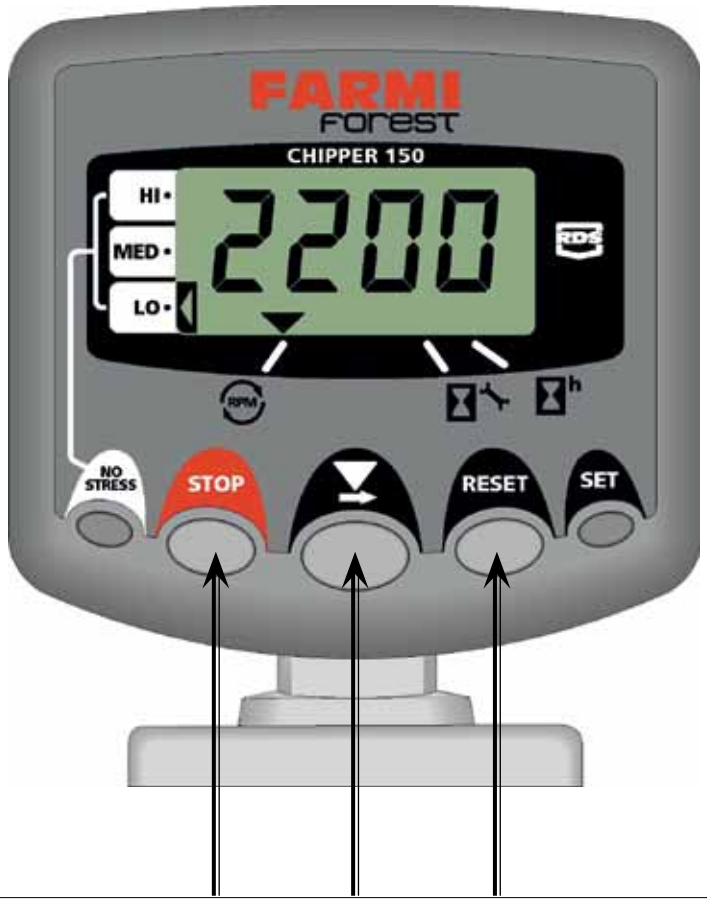
The 'latching' time period can be set in programming mode 4. To enter the programming mode press and hold the SET button while turning the instrument on, keep the SET button pressed for a further 10 seconds and the display will show CAL 4. Press the SET button twice more and the display will show the latching time. This can be changed by pressing and holding the middle button. The time period can be set from 1 – 9 seconds. 0 seconds can also be set which turns the latching function off. This maybe of benefit when using the foot switches.

When the feed rollers forward is on it will only be turned off by any of the following:

1. NORMAL 'NO STRESS' OPERATION
   Feed rollers forward will be turned back on automatically providing the speed is greater than the 'No Stress' speed + resume percentage.
2. OPERATION OF THE FORWARD OR REVERSE SWITCH
   Feed rollers forward will be turned back with the rotary/foot switch providing the speed is greater than the 'No Stress' speed + resume percentage.
3. OPERATION OF THE SAFETY SWITCH
   When the safety switch is closed again the feed rollers forward will be turned back with the rotary/foot switch providing the speed is greater than the 'No Stress' speed + resume percentage.
4. OPERATION OF THE STOP BUTTON ON THE WIZARD
   Normal operation can be resumed by pressing and holding the 'RESET' button for 5 seconds, the feed rollers forward will be turned back on with the rotary/foot switch providing the speed is greater than the 'No Stress' speed + resume percentage.

N.B. If the speed is flashing than it is below the 'no-stress' + resume percentage and so operation of the feed rollers forward is not allowed.

FACTORY DEFAULT SETTINGS:



Switch the instrument off, and hold the 3 middle buttons in, while holding them in, switch the unit back on. This will reset the instrument to its factory settings.

Farmi Forest Chipper 150 Calibration Data - 29.05.12

	Operating Mode			Programming mode 1	Programming mode 2	Programming mode 3	Programming mode 4	Programming mode 5
	Normal Operation		Secondary Functions	Select channel, press and hold 'STOP' to enter	Power on whilst holding 'STOP' to enter mode. Use same key to select channel	Power on whilst holding 'RESET' for 10 seconds to enter mode. Use same key to select channel	Power on whilst holding 'SET' for 10 seconds to enter mode. Use same key to select channel	Power on whilst holding outside left button to enter mode. Use same key to select channel
Channel 1	No Function				Maximum Chipper Speed			Rolls Stop Speed LO
					Default: 4000 (RPM)			Default: 0480
Channel 2	Chipper Speed	With chipper rotating, press and hold 'SET' for 5 seconds to programme NO STRESS SPEED (mode 5)	With chipper stationary, press and hold 'SET' for 5 seconds to view NO STRESS SPEED (mode 5)	Resume Percentage	Maximum recorded chipper RPM	Chipper PPR	Inputs	
	(RPM)			Default: 11 (%)		Default: 1.000 (ppr)	Default: Std	
Channel 3	No Function				Minimum Speed Alarm	Feed Roller Reverse Delay	Forward Latching	Rolls Stop Speed MED
					Default: 100 (RPM)	Default: 0.1 (Secs)	Default: 1 (Secs)	Default: 0680
Channel 4	No Function					Feed Roller Reverse Duration	Set Button	
						Default: 0.4 (secs)	Default: ON	
Channel 5	Service Countdown	Press and hold 'RESET' to reset the service timer		Service Interval Set/Reset			Reverse Latching	Rolls Stop Speed HI
	(Hrs)			Default: 500 (Hrs)			Default: 0 (Secs)	Default: 0900
Channel 6	Working hours	Press and hold 'RESET' to return register to zero.		Grand Total Hours			Grand Total Hours (programmable)	
	(Hrs)			(Hrs)			(Hrs)	

ALARMS

SEr = Service interval reached
SAFE = Safety switch has been pressed
STOP = Stop button has been pressed
PROG = Instrument Failure
BAtt = Low power supply voltage (Under 9v)

ALARM LOGIC

When there is an alarm condition the instrument will default to the appropriate channel, the display will flash and the internal buzzer will sound 5 times. The instrument will remain on this channel with the display flashing until either:

- another channel is selected and the alarm is ignored (see below)
- the alarm condition is rectified

For any of the 2 channels the internal buzzer will also sound again 5 times if the instrument remains alarming for more than 30 seconds. This will be repeated again 30 seconds later unless one of two aforementioned actions have occurred.

An alarm condition can be ignored by selecting another channel. If this is done then the display will flash when the alarming channel is re-selected. The alarm will also be repeated 30 seconds later if it hasn't been rectified.

The alarms will be prioritised as follows:

- Stop switch input (channel 2)
- Chipping speed alarm (channel 2)
- Service interval (channel 6)

Should 3 alarm conditions exist the highest priority one will be shown first, if this is then ignored the instrument should automatically then indicate the 2nd alarm.

All alarms will operate on the medium 'beep' rate and the external alarm output will not be used.

HIGH CHIPPING SPEED

The instrument will default to the chipping speed channel (channel 2), the speed will flash and the instrument will beep continuously. O/P's will be disabled.

LOW CHIPPING SPEED

The instrument will default to the chipping speed channel (channel 2), the speed will flash and the instrument will beep continuously. When the speed falls below the MINIMUM SPEED ALARM, latching is reset.

SERVICE INTERVAL REACHED

If the service interval timer (channel 5) counts down to zero then the chevron should jump to channel 5 and emit a beep and flash 'SEr'.

When the chipping unit is stopped, the chevron should jump to channel 5 and emit a beep and flash 'SEr'. If the unit is switched on and the counter is on zero then it should jump to channel 5, beep and flash 'SEr'.

The service timer can be reset by pressing and holding the RESET button.

SAFETY SWITCH ALARM

If I/P 2 is open then the display will flash 'SAFE' and O/P1 and O/P2 will be disabled until the I/P is closed.

This alarm cannot be ignored.

When the Stop Switch Alarm occurs, latching is reset.

STOP ALARM

If during normal chipping operation the 'STOP' button is pressed then all the O/P's will be disabled. This instrument will alarm and flash 'StoP' on channel 2.
Normal operation can be resumed by pressing the holding the 'RESET' button for 5 seconds whilst on channel 2.

When the 'STOP' button is pressed, latching is reset. This message takes priority over the 'FR' and 'FE' messages.

PROG ALARM

If the instrument software has got damaged, such as a person welding/soldering on the machine, or a lightning strike etc. It is when the software has been corrupted.

To fix this, you switch the instrument off, hold in the 3 middle buttons and while holding them in, switch it back on. This then resets the software to how it was when it left the RDS factory (default settings).

BAtt ALARM

Low power supply voltage (Under 9v). Check the power line from the tractor.

MAINTENANCE

- The feed roller bearings are sealed and do not require periodic maintenance.
- Lubricate the roller bracket shaft after every 20 operating hours. See fig. 18.
- Lubricate the rotor bearings after every 50 operating hours.
- Check and tighten loose bolts at regular intervals.
- Check the condition of the hydraulic hoses and regularly inspect the connections for leaks.
- Be sure to use only clean oil in the hydraulic system. The presence of impurities in oil damages the valves and hydraulic motors.

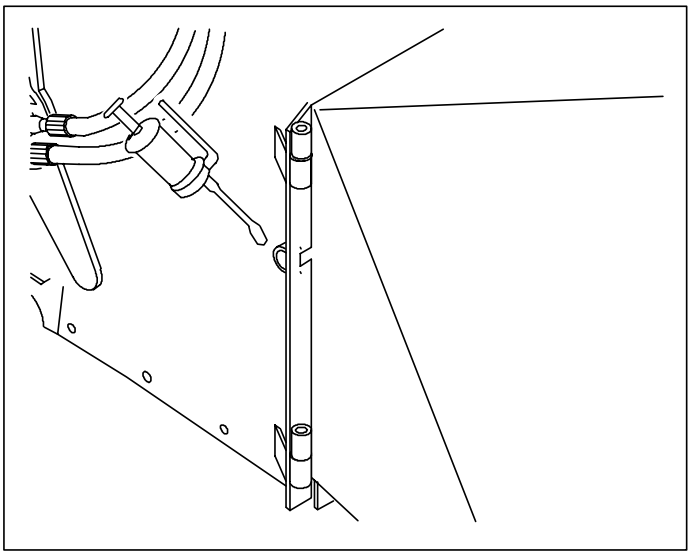
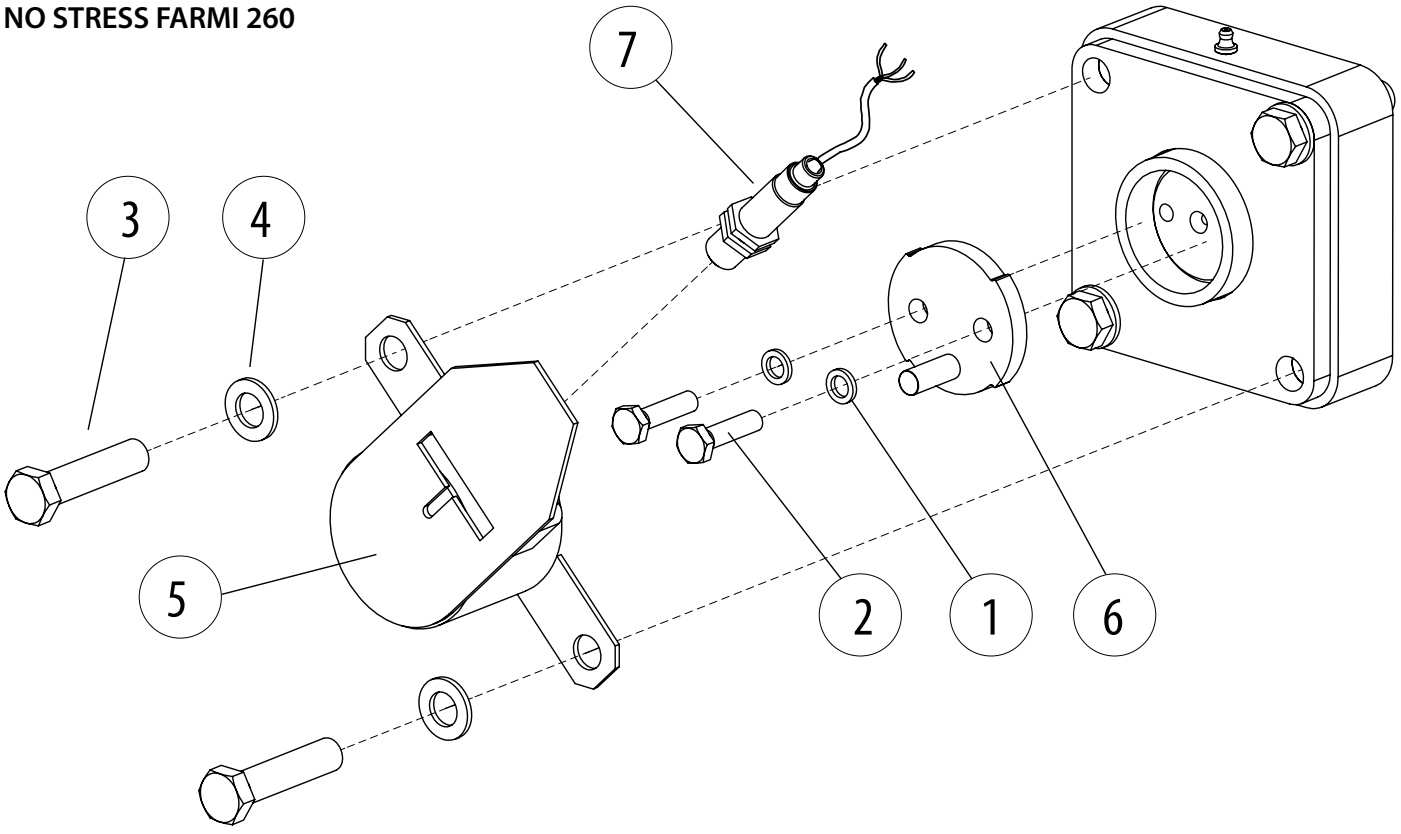


Fig. 18. Lubricating the feed roller bracket shaft

HF260 ELECTRICS

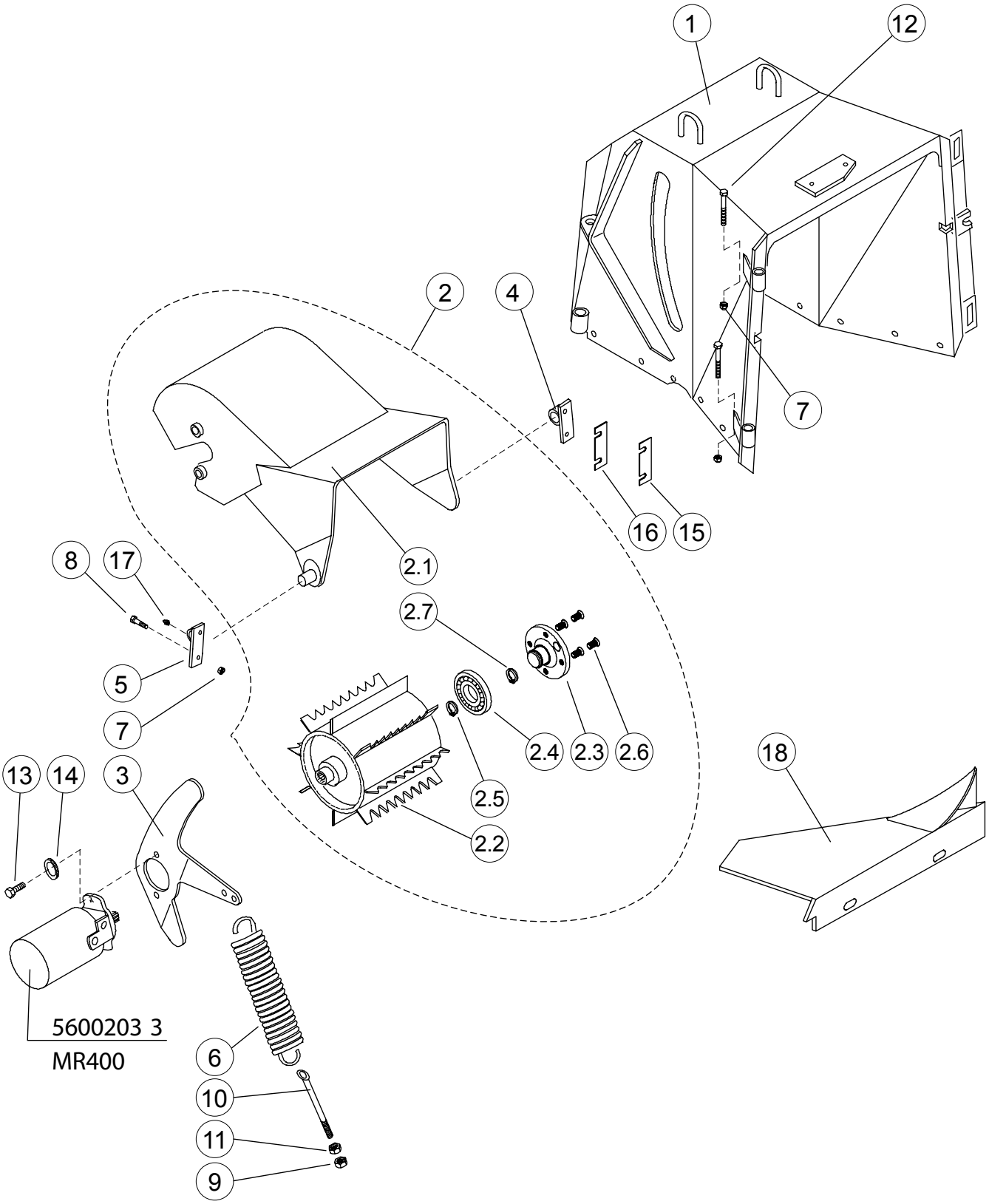
Part	Order no	Description	Remarks	Qty
1	03299510	Control box	standard	1
2	03299530	Pedal	accessory	1
3	03299010	Emergency stop	standard	1

NO STRESS FARMI 260



Part	Order no	Description	Remarks	Qty
1	52214251	Lock washer	M10 NORD-LOCK	2
2	52060258	Screw	M10X40 DIN933 88ZN	2
3	52062148	Screw	M16X70 DIN931 88ZN	4
4	52200078	Washer	M16 DIN126 58ZN	4
5	33296290	Splined shaft cover		1
6	43563080	Flange		1
7		Sensor		1

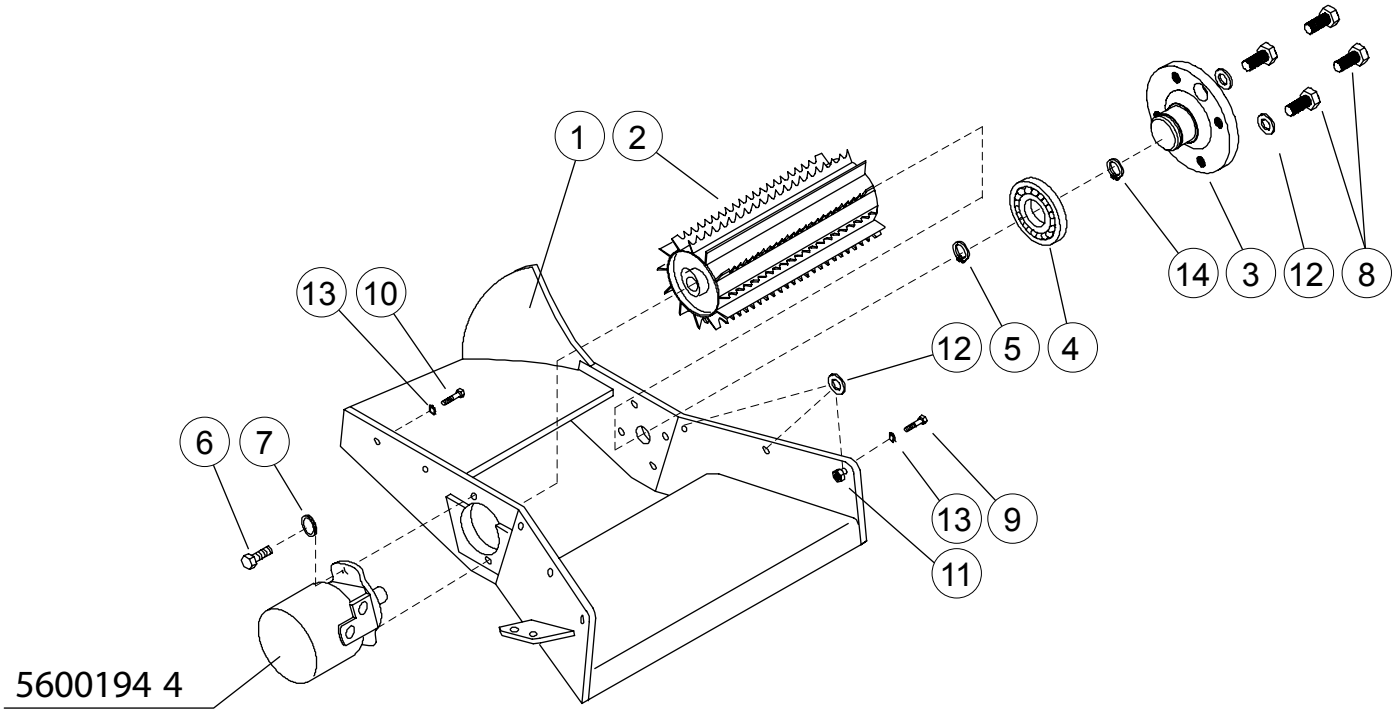
03489150 FRAME, ROLLER, ROLLER'S SWING



03489150 FRAME, ROLLER, ROLLER'S SWING

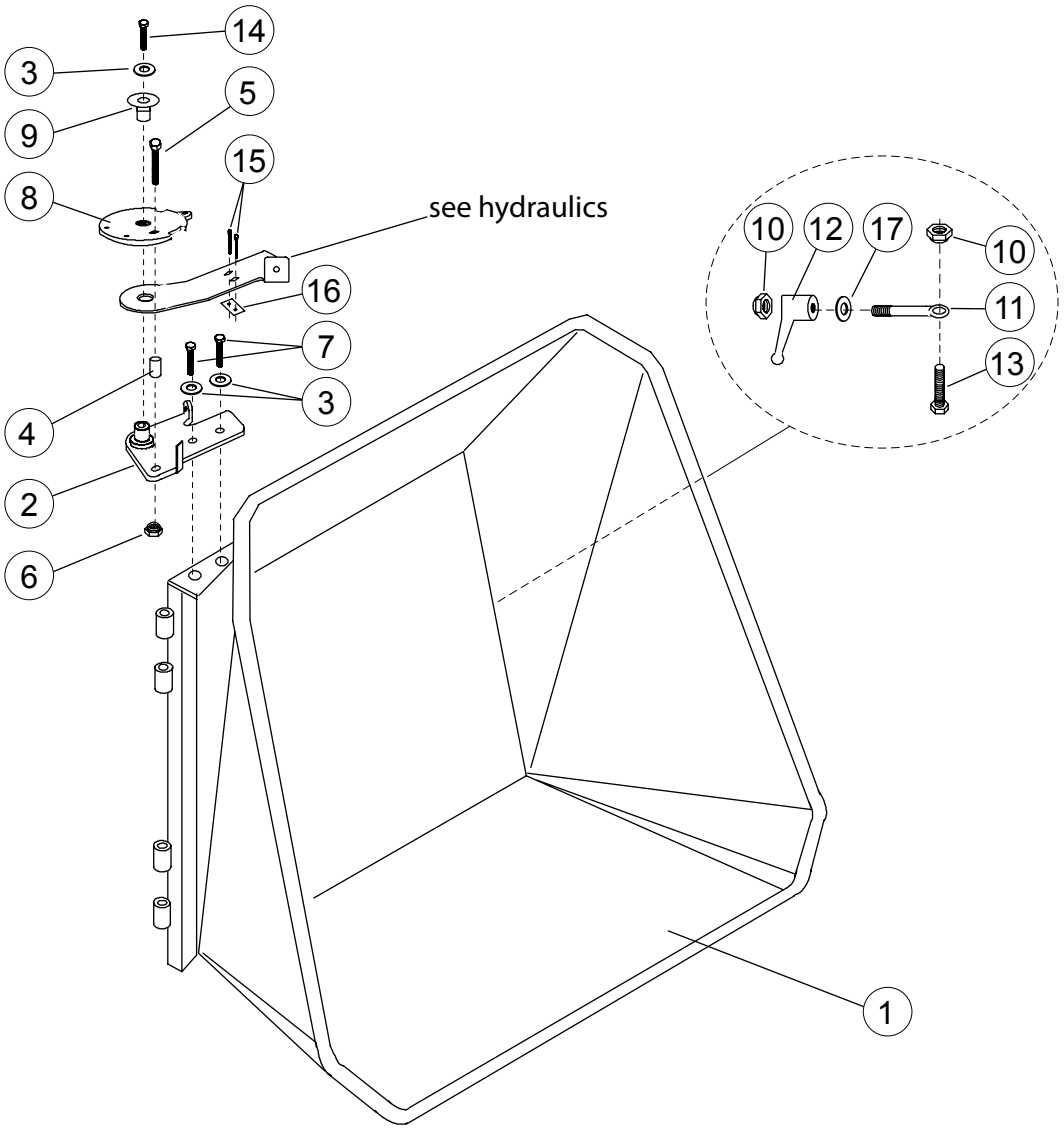
Part	Order no	Description	Remarks	Qty
1	43489120	Frame		1
2	03484200	Roller's swing	complete	1
2.1	43481110	Roller's swing		1
2.2	43484180	Feeder roll		1
2.3	43313048	Fastening flange		1
2.4	54511340	Slotted sealed ball bearing		1
2.5	52230067	Circlip	35X2,5 DIN471	1
2.6	58211570	Hexagonal socket head screw	M10x16 DIN7991 ZN	4
2.7	52231172	Circlip	72x2,5 DIN472	1
3	43481190	Motor's fastening flange		1
4	43481440	Hinge	right	1
5	43481430	Hinge	left	1
6	94617073	Tension spring	DU68	1
7	52117108	Lock nut	M10 DIN985 8ZN	4
8	52060233	Screw	M10X30 DIN933 88ZN	4
9	52117124	Lock nut	M12 DIN985 8ZN	1
10	43482040	Screw		1
11	52110293	Nut	M12 DIN934	1
12	52062850	Screw	M10X150 DIN931 88ZN	2
13	52063617	Screw	M12X40 DIN933 10.9	2
14	52214269	Lock washer	M12 NORD-LOCK	2
15	43484920	Adjustment plate		1
16	43484910	Adjustment plate		1
17	52401023	Grease nipple	AM6	2
18	43481850	Adaptor piece		1

03485100 FEED ROLLER BOTTOM



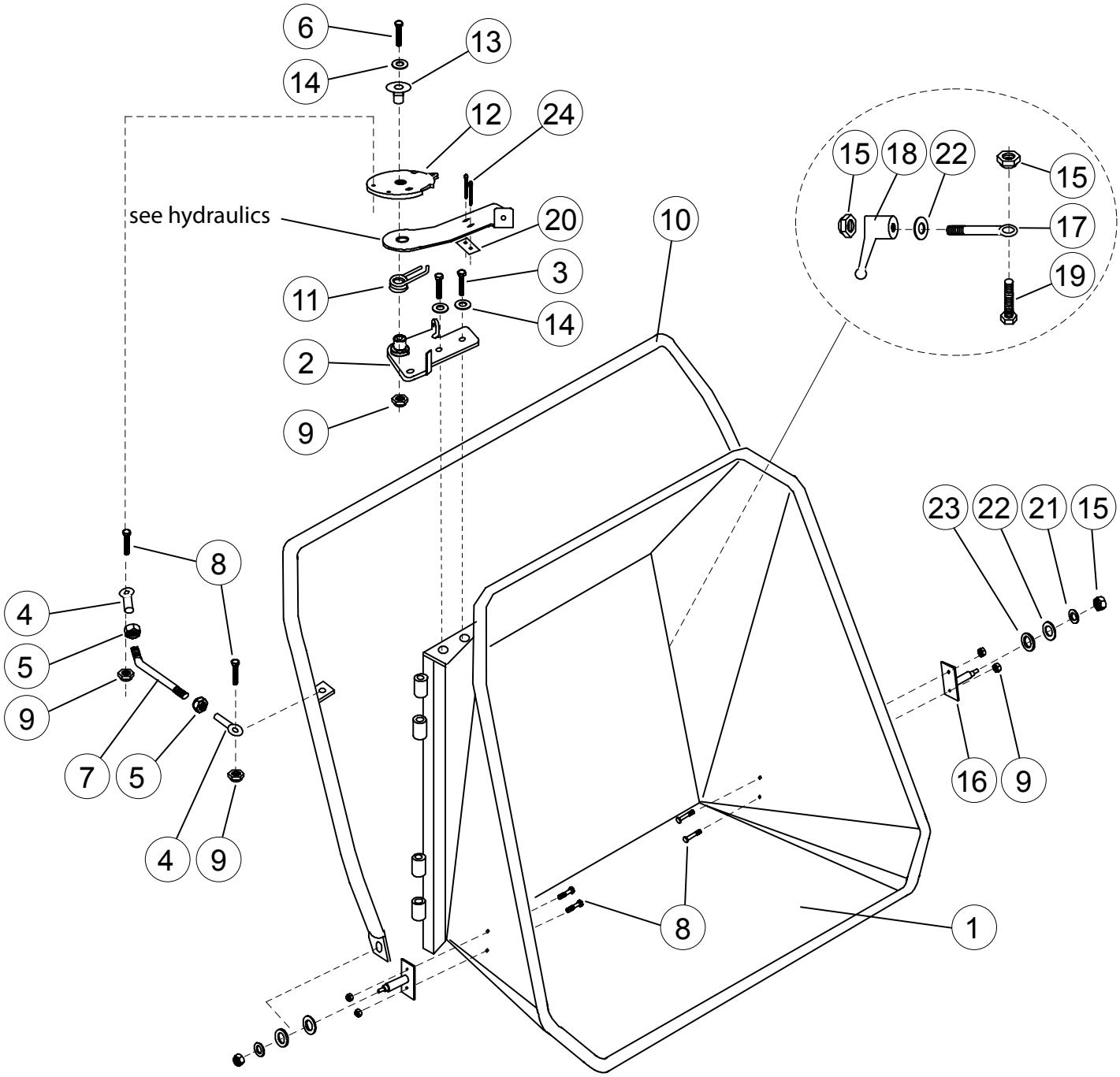
Part	Order no	Description	Remarks	Qty
1	43481280	Roller frame		1
2	43481330	Feeder roll		1
3	43313048	Fastening flange		1
4	54511340	Slotted sealed ball bearing		1
5	52230067	Circlip	35X2,5 DIN471	1
6	52090552	Screw	M12X30 DIN933 10.9	2
7	52214269	Lock washer	M12 NORD-LOCK	2
8	52060514	Screw	M10X20 DIN933 88ZN	4
9	52004199	Hexagonal socket head screw	M12x30 DIN7991 10.9	6
10	52062015	Screw	M12X20 DIN933 88ZN	4
11	52117124	Lock nut	M12 DIN985 8ZN	6
12	52211042	Spring washer	M10 DIN127 ZN	2
13	52211059	Spring washer	M12 DIN127 ZN	6
14	52231172	Circlip	72x2,5 DIN472	1

03488140 FEED HOPPER FOR GRAB LOADER FEED HF260-EL-0



Part	Order no	Description	Remarks	Qty
1	43487800	Feed chute EL-0		1
2	43487970	Fastener		1
3	52211042	Spring washer	M10 DIN127 ZN	3
4	43488280	Bushing		1
5	52060159	Screw	M8X50 DIN933 88ZN	1
6	52117082	Lock nut	M8 DIN985 8ZN	1
7	52060209	Screw	M10X16 DIN933 88ZN	2
8	43488340	Wafer		1
9	43482840	Flanged bush		1
10	52117124	Lock nut	M12 DIN985 8ZN	1
11	52062840	Eyebolt		1
12	52110420	Lever		1
13	52062031	Screw	M12X40 DIN933 88ZN	1
14	52060225	Screw	M10X25 DIN933 88ZN	1
15	52030350	Slot headed screw	M4X40 DIN7985 58ZN	2
16	43488490	Counterpart		1
17	52200466	Washer	M12 DIN440 ZN	1

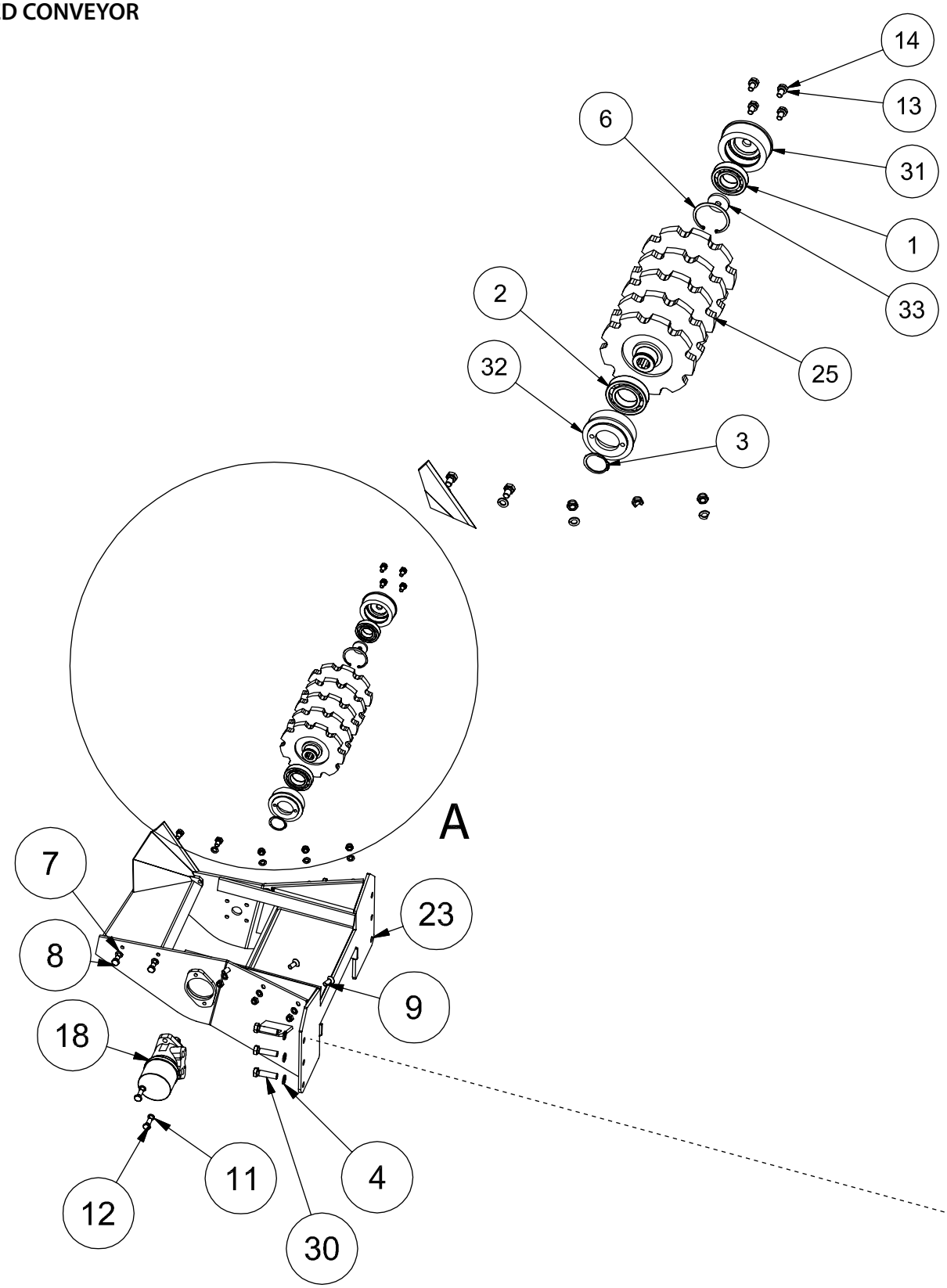
03488300 FEED CHUTE HF260-EL-SM FOR FOR GRAB LOADER FEED



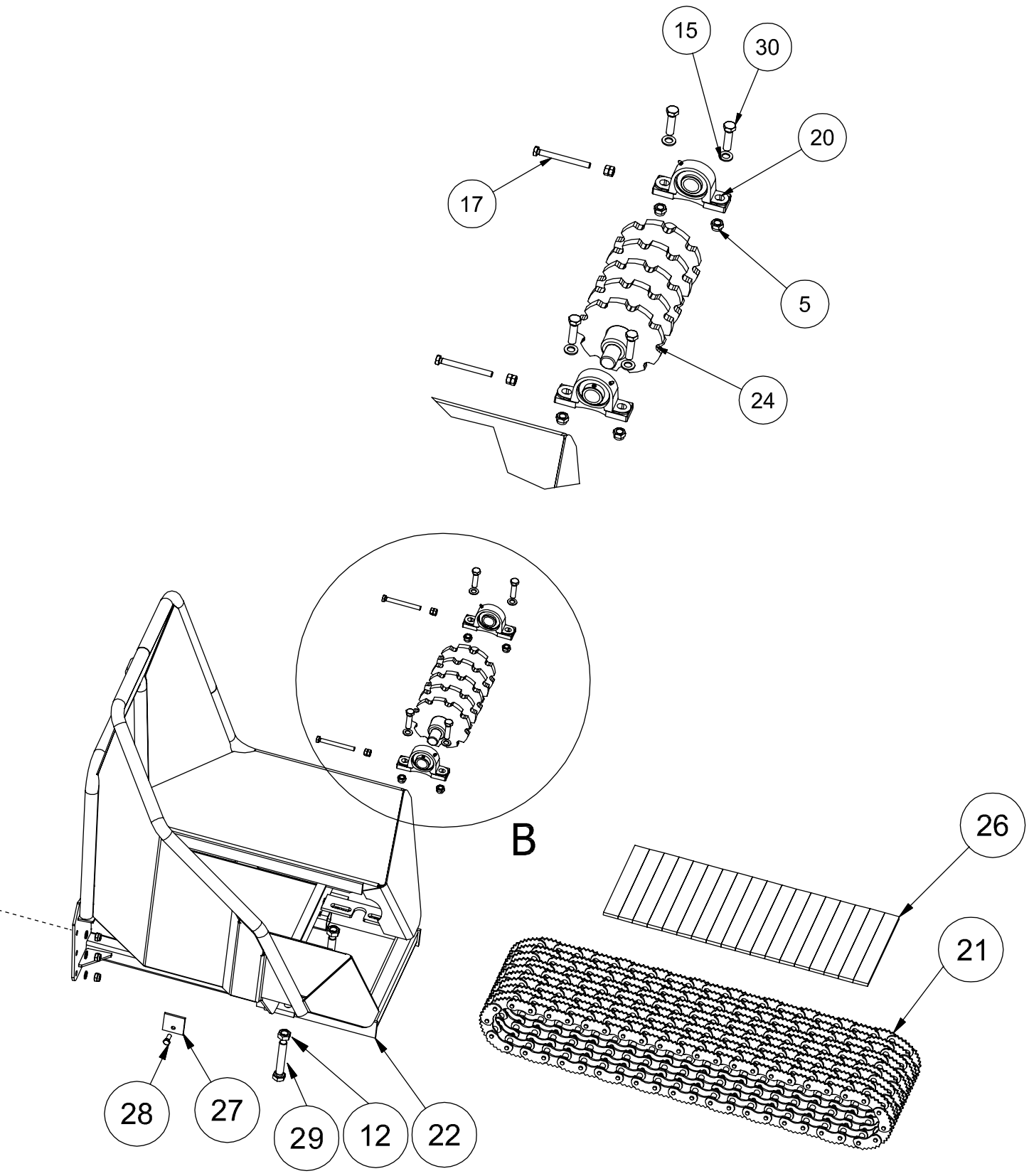
03488300 FEED CHUTE HF260-EL-SM FOR GRAB LOADER FEED

Part	Order no	Description	Remarks	Qty
1	43487800	Feed chute EL-SM		1
2	43487970	Fastener		1
3	52060209	Screw	M10X16 DIN933 88ZN	2
4	54591140	Counterpart		2
5	52110046	Nut	M10 DIN934 8ZN	2
6	52060944	Screw	M10X60 DIN933 88ZN	1
7	43488360	Lever		1
8	52060233	Screw	M10X30 DIN933 88ZN	6
9	52117108	Lock nut	M10 DIN985 8ZN	7
10	43488220	Emergency stop bar		1
11	43482730	Torsion spring	DU36	1
12	43488340	Wafer		1
13	43482840	Flanged bush		1
14	52211042	Spring washer	M10 DIN127 ZN	3
15	52117124	Lock nut	M12 DIN985 8ZN	4
16	43488230	Stop handle fastener		2
17	52062840	Eyebolt	M12X120 88ZN	1
18	52110420	Lever		1
19	52062031	Screw	M12X40 DIN933 88ZN	1
20	43488490	Counter part		1
21	52200466	Washer	M12 DIN440 ZN	3
22	43483680	Rubber		2
23	52200078	Washer	M16 DIN126 58ZN	2
24	52030350	Slot headed screw	M4X40 DIN7985 58ZN	2

03295500 FEED CONVEYOR



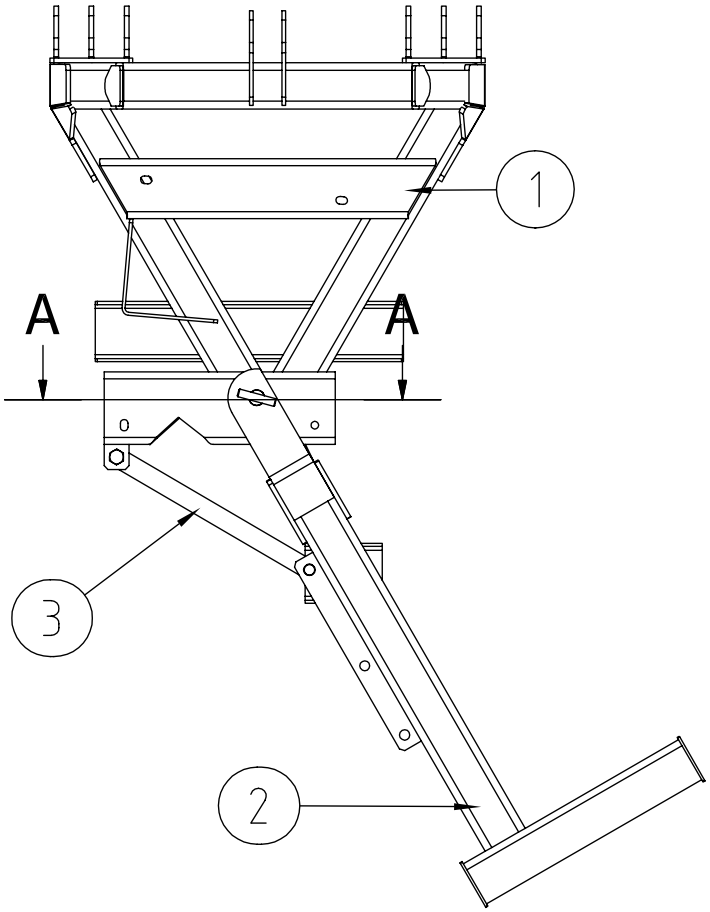
03295500 FEED CONVEYOR

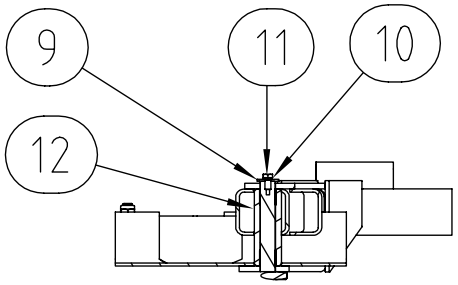


03295500 FEED CONVEYOR

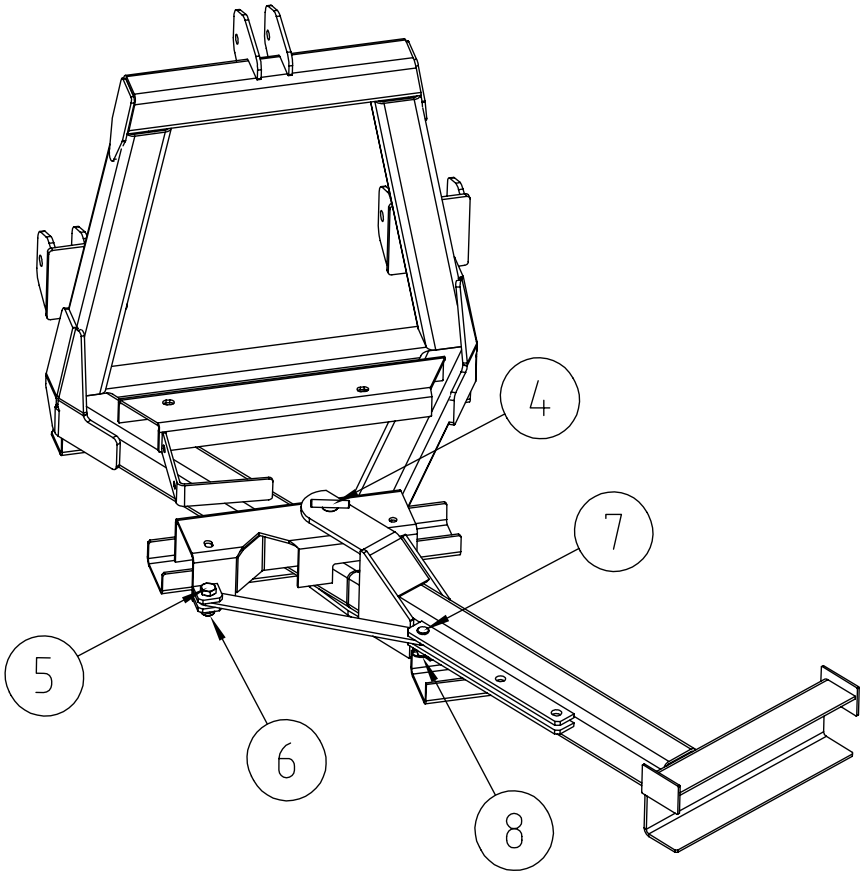
Part	Order no	Description	Remarks	Qty
1	54511340	Slotted sealed ball bearing		1
2	54512140	Ball bearing		1
3	52230257	Circlip	45x2,5 DIN471	1
4	52214285	Lock washer	M16 NORD-LOCK	12
5	52117165	Lock nut	M16 DIN985 8ZN	10
6	52231172	Circlip	72x2,5 DIN472	1
7	52211059	Spring washer	M12 DIN127 ZN	10
8	52062015	Screw	M12X20 DIN933 88ZN	4
9	52004199	Screw	M12x30 DIN7991 10.9	6
10	-	-	-	-
11	52214269	Lock washer	M12 NORD-LOCK	2
12	52091839	Screw	M12x30 DIN933 10.9ZN	2
13	52211042	Spring washer	M10 DIN127 ZN	4
14	52060514	Screw	M10X20 DIN933 88ZN	4
15	52200078	Washer	M16 DIN125 58ZN	8
16	52110053	Nut	M12 DIN934 8ZN	2
17	52063658	Screw	M12x120 DIN933 88ZN	2
18	56002020	Hydraulic motor	MR 250	1
19	52110103	Nut	M24 DIN934 8ZN	2
20	54822850	Bearing unit		2
21	54828500	Feeding chain	M80-E-63	5
22	23295860	Feed conveyor frame		1
23	23295850	Feed roller bottom		1
24	33487660	Front axle	M80-E-63	1
25	33487790	Rear axle	M80-E-63	1
26	43295760	Slide plate		18
27	43295670	Plate		2
28	52062023	Screw	M12X30 DIN933 88ZN	2
29	52062320	Screw	M24X140 DIN933 88ZN	2
30	52062916	Screw	M16X60 DIN933 88ZN	10
31	33805940	Footstep bearing housing	right	1
32	33805950	Footstep bearing housing	left	1
33	43805960	Locking plate for rear axle		1

33291980 MOUNTING FRAME HFC260





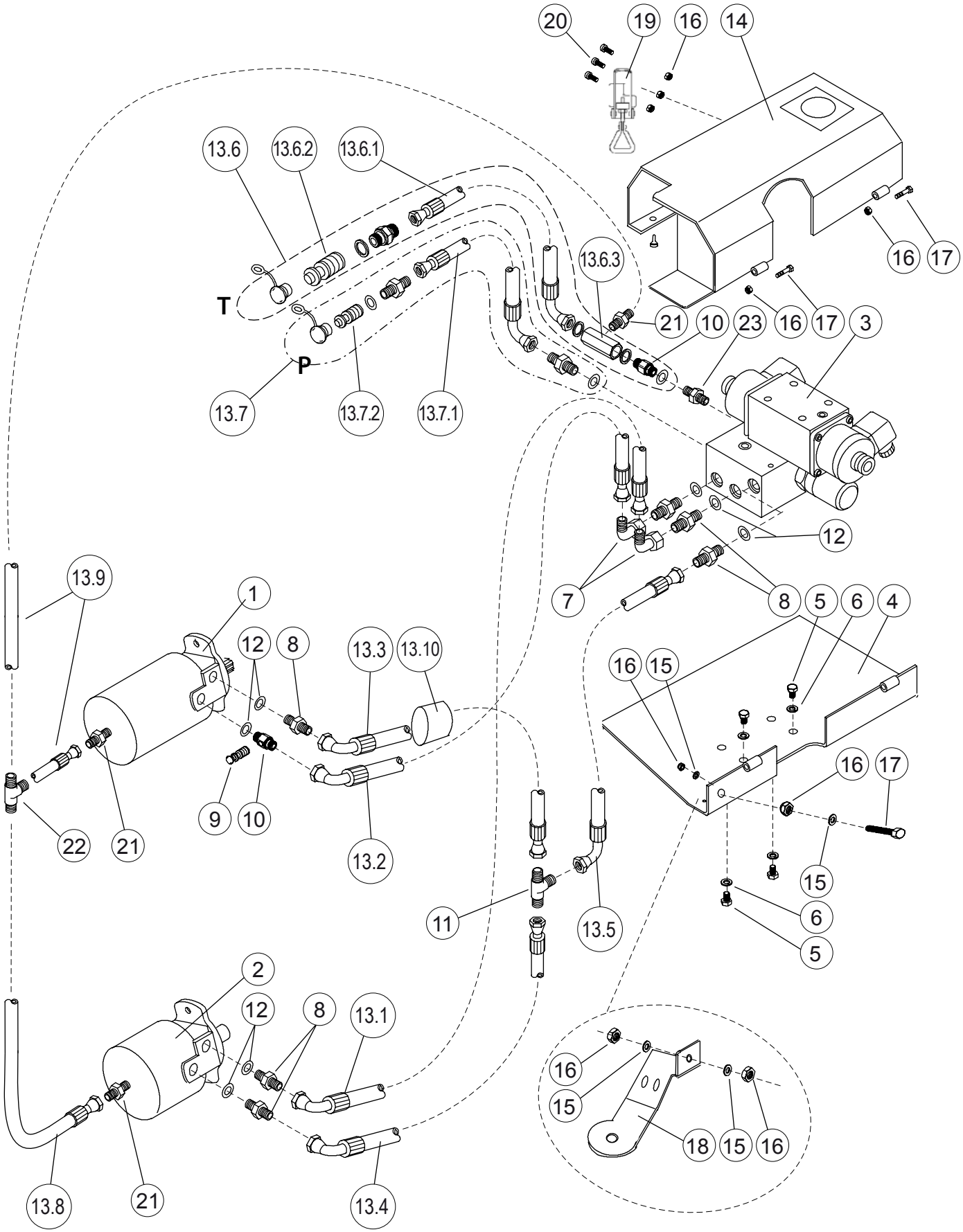
A-A (1 : 20)



33291980 MOUNTING FRAME HFC260

Part	Order no	Description	Remarks	Qty
1	23291990	Frame		1
2	33298890	Joint		1
3	33398950	Transport support		1
4	33398910	Niveltappi		1
5	52062379	Pin	M24X70 DIN933 88ZN	1
6	52117249	Lock nut	M24 DIN985 8ZN	1
7	52854346	Pin		1
8	52842168	Ring cotter		1
9	52200615	Washer	M16 DIN440 ZN	1
10	52214285	Lock washer	M16 NORD-LOCK	1
11	52062106	Screw	M16X30 DIN933 88ZN	1
12	52401015	Grease nipple	AR1/8	1

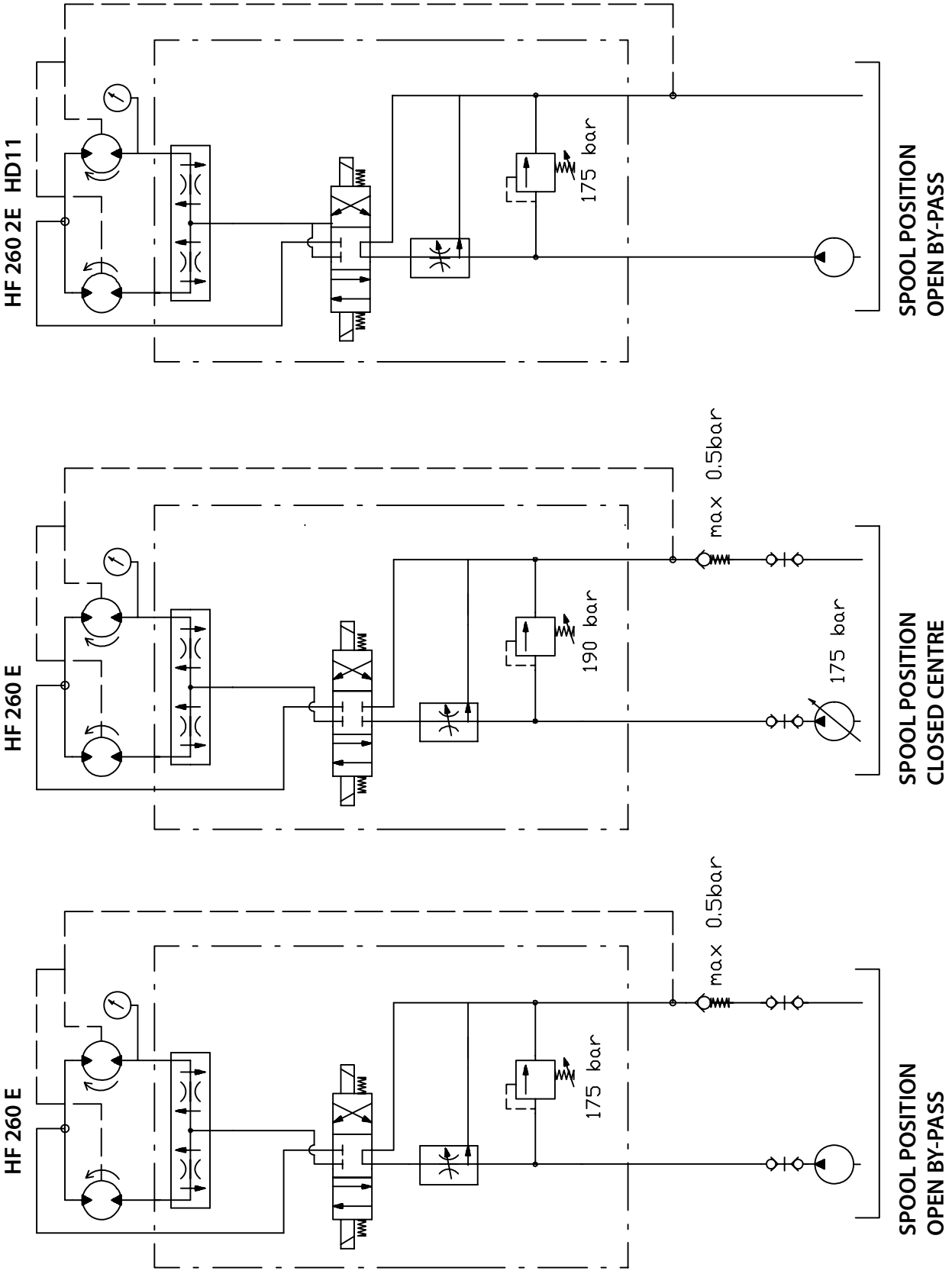
03489160 HYDRAULICS



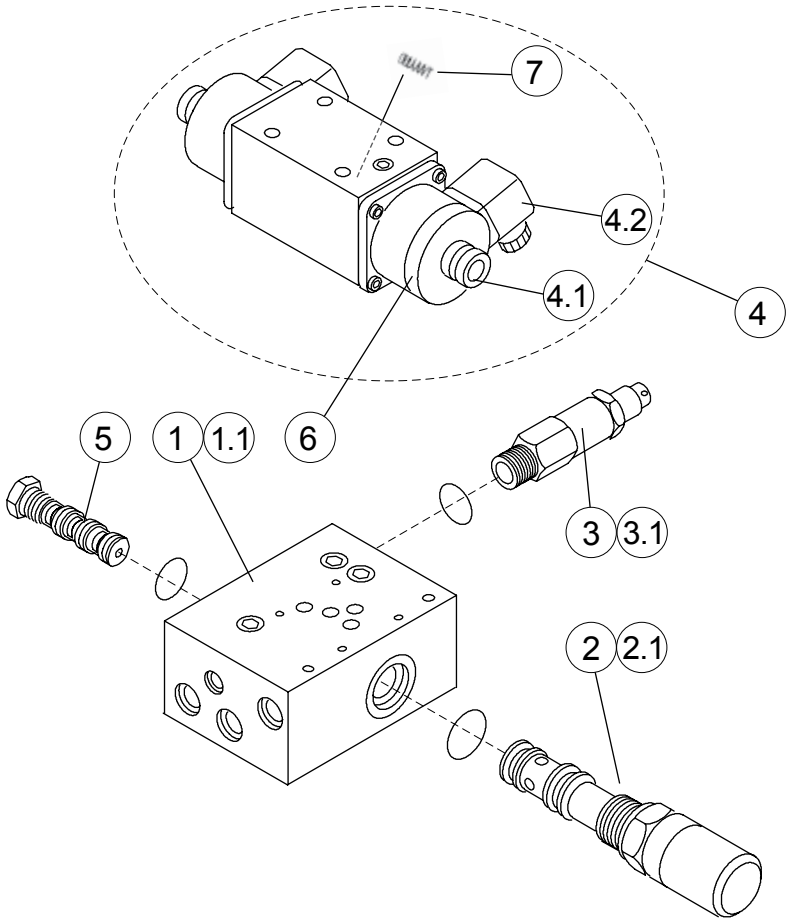
03489160 HYDRAULICS

Part	Order no	Description	Remarks	Qty
1	56002033	Hydraulic motor		1
1.1	58217640	Seal kit	for M+S Hydraulic motor	1
	OR			
1.1	58218827	Seal kit	for Danfoss motor	1
2	56001944	Hydraulic motor		1
2.1	58217746	Seal kit	for M+S Hydraulic motor	1
	OR			
2.1	52357589	Seal kit	for Danfoss motor	1
3	56072119	Control valve	Vickers	1
4	43488430	Valve bottom plate		1
5	52060209	Screw	M10X16 DIN933 88ZN	4
6	52211042	Spring washer	M10 DIN127 ZN	4
7	52442175	Angle nipple	R1/2, 90o	2
8	52432051	Double fitting	R1/2	6
9	52449162	Measuring point		1
10	52435815	Gauge fitting	R1/2-R1/2-R1/4	2
11	52443686	T-nipple	R1/2	1
12	52390200	Usit-ring	U21,54X28,58X2,49	7
13	03482540	Hose series		1
13.1	56525165	Hose assy	V1/2"S L=1,1 m	1
13.2	56525132	Hose assy	V1/2"S L=0,9 m	1
13.3	56525074	Hose assy	V1/2"S L=0,6 m	1
13.4	56525033	Hose assy	V1/2"S L=0,4 m	1
13.5	56526049	Hose assy	K1/2"S L=0,45 m	1
13.6	03484370	Hose assy		1
13.6.1	56526270	Hose assy	K1/2"S L=2,2 m	1
13.6.2	52449022	Quick fitting	1/2"	1
13.6.3	56013246	Back pressure valve	1/2", arrow to tank	1
13.7	03484380	Hose assy		1
13.7.1	56526270	Hose assy	K1/2"S L=2,2 m	1
13.7.2	52449022	Quick fitting	1/2"	1
13.8	56517089	Hose assy	V1/4"S L=0,65 m	1
13.9	56518061	Hose assy	K1/4"S L=0,55 m	2
13.10	54921473	Water drainage pipe		7
14	43488450	Valve cover		1
15	52200029	Washer	M6 DIN126 58ZN	4
16	52117066	Lock nut	M6 DIN985 8ZN	8
17	52060068	Screw	M6X50 DIN933 88ZN	3
18	43488350	Fastening plate		1
19	54712020	Latch		1
20	52091816	Hexagon socket countersunk head cap screw	M6X16 DIN7991	3
21	52432101	Double fitting	R1/4"	3
22	52443660	T-nipple	R1/4"	1
23	52435773	Swivel fitting	R1/2"	1

HYDRAULICS CIRCUIT DIAGRAM



56072119 DIRECTIONAL CONTROL VALVE VICKERS



Part	Order no	Description	Remarks	Qty
1	23482051	Valve block		1
1.1	58104810	Seal kit		1
2	58104696	Flow regulator valve		1
2.1	58104800	Seal kit		1
3	58104704	Pressure relief valve	175 bar	1
3.1	58104790	Seal kit		1
4	56057243	Electric control valve		1
4.1	56057230	Solenoid spool		2
4.2		Connector		2
5	58213596	Flow divider valve		1
5.1	58104780	Seal kit		1
6	56057270	Nut		2
7	58103640	Spring		2

WARRANTY

Farmi Forest Oy grants a 12-month warranty on all of its products, covering material and manufacturing faults. The warranty comes into effect on the product's delivery date.

The manufacturer is not liable for damages caused by:

- misuse of the product
- alterations or repairs made without the manufacturer's permission
- insufficient maintenance
- non-original parts

The warranty does not cover wearing parts.

Send faulty parts, carriage paid, to the manufacturer for inspection. Repairs will be conducted by Farmi Forest Oy or an authorized expert. The warranty is valid only if the bottom part of this page is filled in and returned to the manufacturer within 30 days of receipt of the product.
By returning the warranty certificate, you confirm that you have read and understood the instruction manual that came with the product.

Farmi Forest Corporation
Ahmolantie 6
FIN-74510 IISALMI
FINLAND

PRODUCT REGISTRATION FORM

Date of delivery:_____/_____ 20_____

Dealer:

Dealer's address:

Dealer's tel:

Product and type:

Serial number:

Return to the manufacturer

Date of delivery:_____/_____ 20_____

Dealer:

Dealer's address:

Dealer's tel:

Customer:

Customer's address:

Customer's tel:

E-mail address:

Product and type:

Serial number:

Farmi Forest Corporation
Ahmolantie 6
FIN-74510 Iisalmi, Finland
Puh. +358 (0)17 83 241
Fax. +358 (0)17 8324 372
www.farmiforest.fi