Junkkari

JUNKKARI HJ-500C

CHIPPER

OPERATOR'S MANUAL

OH000107
2016

TABLE OF CONTENT

1 DEAR CUSTOMER

We thank you for your trust and wish you every success in your business. We ask you to become acquainted with these instructions as the thorough knowledge of the machine, the proper adjustments, and the meticulous maintenance would guarantee the user safety and interference-free function of the machine during busy working days. It is important that you understand every section of this manual and follow the operating instructions.

When something is not quite clear for you, please contact the seller of the machine. We hope that after having become acquainted with the instructions, you will return the undersigned warranty certificate to the factory.

Best regards,

Junkkari

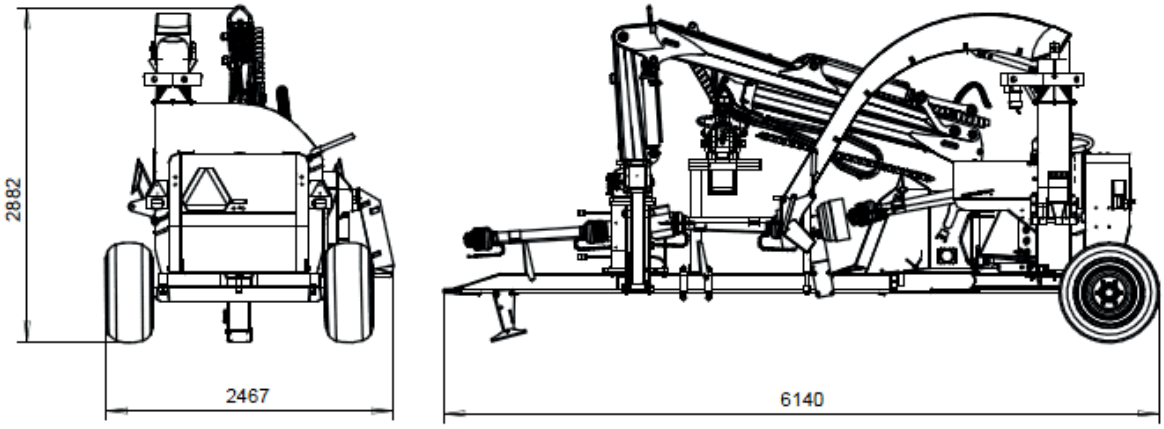
1.1 WARNING SIGN

The sign is used throughout the manual whenever there is the risk of the danger to the user or other persons.

In addition, the sign is used when there is the risk of the danger to the environment or property.

2 TECHNICAL SPECIFICATIONS

Model	HJ500 C
Cutting disk diameter mm	1380
Cutting disk weight kg	650
Cutting disk speed r/min	540-1000
Knife quantity	2 (knife is two-piece)
Knife adjustment / mm	5 -20
Max. wood diameter mm	450
Chipping Output m3 /h	20-100
Power requirement hv/kW	110-200/80-150
Weight kg	2700
Weight with conveyor kg	3100 (conveyor is option)
Height transport position cm	283 (when dicharge spout is up 444cm)
Width transport position cm	260
Leght mm	4330 -4830 (adjustmen of the drawbar 500mm)
Feed opening size mm	460x460
Feeder	Hydraulic
Tyres	400x15,5/14
Track cm	190
Ground clearance mm	330
Electrical system	12V



Your machine data:

Type : _____

Serial No : _____

Year : _____

3 SAFETY INSTRUCTIONS

3.1 GENERAL SAFETY INSTRUCTIONS

- CLOTHING: For your own safety, use well-fitting clothing without hanging parts.
- USAGE: Before using the machine, familiarize yourself with its connection, controls, and operation.
- WARNINGS: Follow all the warnings and instructions attached to the machine.
- GUARDS: The machine should be used only when all guards are in place and in order.
When chipping, always wear hearing protectors.
- CONNECTING TO THE TRACTOR: Follow special precautions when connecting or disconnecting the machine.
- DRAWBAR LOAD: Consider the maximum allowed drawbar and tractor hitch loads.
- PARKING: Be certain that the machine would be not able to move while in a parking position.
- SAFETY DISTANCE: The machine with due to its operational principles has some parts that cannot be safeguarded completely. You must always keep a proper distance from such parts. The operator must also take care not to allow any outsider to approach these parts.
- WORKING WITH THE MACHINE: When the machine is running, it is forbidden to be in the vicinity of the machine.
    - Never enter the space between the chipper and the tractor when the chipper is being lifted, lowered or moved.
    - Never go below or climp onto the chipper that is hydraulically supported.
    - Before starting the chipper up, check that it has been connected properly and the guards are in place.
    - Always ensure before starting to operate the machine that there are no people in the immediate vicinity of the machine.
    - Check the condition of the machine after the use, especially the mounting and connection points.
- MAINTENANCE: Prior to any maintenance or cleaning procedures, you must ensure that the knife disk has completely stopped.

HJ500 CHIPPER IS ONLY FOR CRANE FEED

ALWAYS USE HEARING PROTECTORS WHILE OPERATING THE CHIPPER, BECAUSE THE NOISE LEVEL AT OPERATING AREA EXCEEDS 85 db.

3.2 RUN-DOWN TIME

Junkkari chipper HJ500C has the following run-down times:

Loaded	20	seconds
Unloaded	600	seconds (10 min.)

3.3 TRANSPORTATION AND TRANSFER

- Always comply with the traffic legislation when driving on public roads.
- Ensure and install for the transportation on public roads all required accessories such as lights, reflectors, and slow-moving vehicle triangle.
- Consider the allowed axle weights, total weights, and transportation dimensions.
- All equipment used for moving the chipper, such as chains, bars, etc., must be installed in a way that any accidental movements would not affect their function when the chipper is running or in transport position.
- Tractor maneuverability, steering, and braking operation may be effected during transportation by towed or hitched machines or extra weights. It is therefore important that there are always enough steering and braking force available.
- It is forbidden to carry passengers on top of a moving chipper.
- The machine may be lifted only from the places marked with corresponding decals.
- Use only approved lifting straps or chains and check their condition.
- If the machine is transferred, for instance, on the platform, it must be tied down firmly by means of chains or straps.
- When loading with the forklift truck etc., ensure that the machine is properly balanced and there is no danger of falling down.
- When transportin lock the conveyor / feeder and supporting legs to transportation position with the locking pins that came with the machine.

3.4 UNIVERSAL DRIVE SHAFT

- Shut down the PTO (power take-off) always before leaving the tractor cab.
- Check that the PTO guard tubes do not rotate with the shaft. Attach the stop chain with care.
- When the machine is transported on public roads, the driver must ensure that the PTO power is cut off.
- Before connecting the PTO drive on, ensure that the area close to the rotating shaft is clear of people.
- The universal joint axle may be installed only when the tractor PTO is turned off, the motor is shut off, and the key is removed from the ignition.
- When starting the motor the PTO must be turned off.
- The tractor PTO speed should match the machine operation.
- The given PTO speed shall not be exceeded. Exceeding the speed will damage the machine.
- The PTO must be shut off when it is not needed, or when the tractor and the machine angle is too large.
- Before starting the PTO, and while it is running, ensure that the axle danger area stays clear of people.
- Use only CE mark equipped and manufacturer approved universal joint shafts. Guard tubes and chutes, and tractor voa guard must always be installed and in good condition.
- Never use damaged universal joint shaft because of the serious risk of accident.
Damaged shaft must be repair before it is used next time.
- Note the universal joint shaft axle tube overlap in both operating and transportation condition.
- After shortening the axle the profile tubes must be cleaned and lubricated with grease thoroughly.
- Universal joint shaft must be installed and removed only when the tractor PTO is turned off. The PTO can not be turned off only by the clutch.
- When the universal joint shaft in installed, its locking pin must be locked in the PTO axle groove. Check that the axle is firmly in place.
- Connect the shaft guard lock chain so that the guard can not rotate.
- Place the removed universal joint shaft onto its support.

3.5 HYDRAULICS

- After start the hydraulic system always has high pressure. High pressure hydraulic oil discharge penetrates through the skin and may cause serious injuries. Injuries are possible also when searching for leaks.
- Be careful with all hydraulic equipment. Hydraulics has risk of crushing and shearing.
- When connecting hydraulic hose, the tractor and machine hydraulic systems cannot be pressurized.

PROTECTIVE MEASURES AGAINST OIL AND GREASE

- Always wear appropriate clothing and oil resistant gloves when handling oil or grease.
- Avoid any skin contact with oil or grease as this can cause damage to the skin.
- Never use oil or grease for cleaning your skin! These substances may contain minor metallic particles that may cause scratching of hands, further aggravated by oil.
- Follow the handling instructions and safety regulations by the lubricant manufacturer.
- Synthetic oils are often corrosive and cause intense irritation of the skin.

WASTE OIL

- Waste oil must always be collected and disposed according to national regulations.

ACCIDENTS

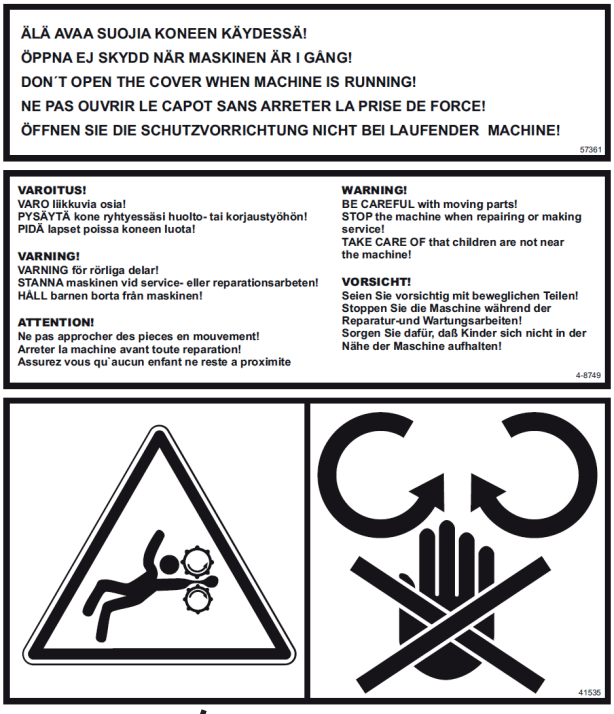
- If any oil is spilled on the ground, the spill must be contained and the oil removed by for example using peat to absorb the oil.
- If the oil or greases causes skin irritation, seek medical care immediately.

4 SAFETY DECALS AND COMPONENTS AND NAME PLATE

DON'T OPEN THE COVER WHEN MACHINE IS RUNNING !

BE CAREFUL WITH MOVING PARTS !
STOP THE MACHINE WHEN REPAIRING OR MAKING SERVICE !
TAKE CARE OF THAT CHILDREN ARE NOT NEAR THE MACHINE !

BE CAREFUL WITH FEEDING ROLLERS



FEEDER
EMERGENCY - STOP

PROTECT YOUR EYES AND EARS

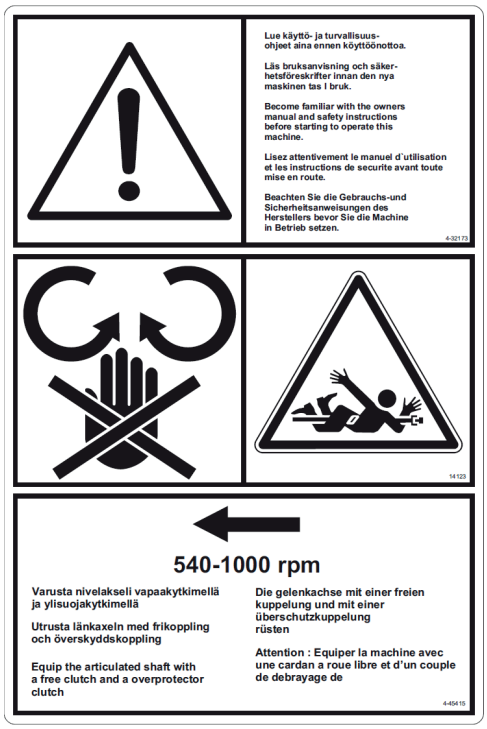
WARNING, CHIPS DISCHARGING

SAFETY DISTANCE 20m

TYRE PRESSURE
340 kPa

ATTENTION
Tighten the bolts after 3 hours of driving.
TORQUE: 200 Nm

READ INSTRUCTIONS



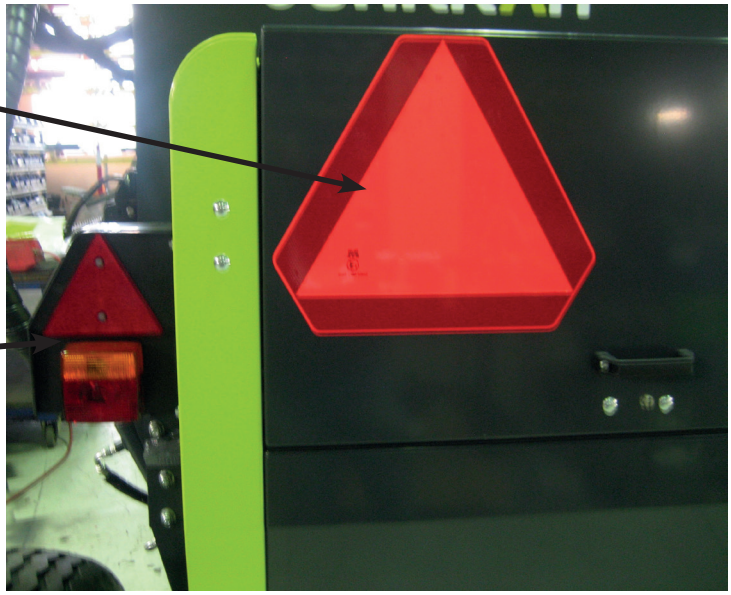
WARNING, ROTATING UNIVERSAL JOINT AXLE

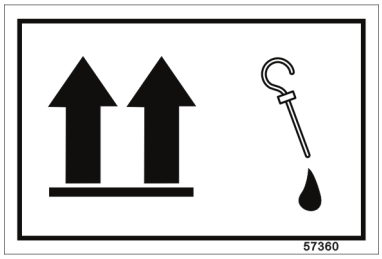
UNIVERSAL JOINT AXLE ROTATING SPEED

EQUIP THE UNIVERSAL JOINT AXLE WITH A FREE CLUTCH AND A OVERPROTECTOR CLUTCH

SLOW-MOVING VEHICLE

LIGHTS



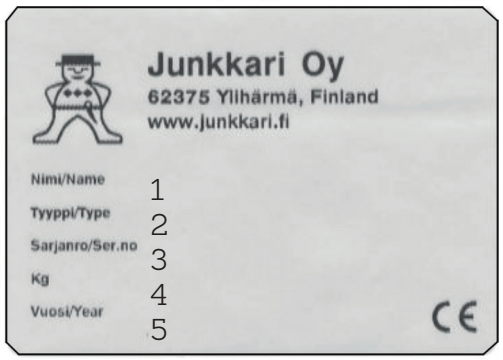


CHECK HYDRAULIC OIL

BE AWARE OF V-BELTS

LUBRICATION

4.1 NAME PLATE



1. Machine name
2. Machine type
3. Serial number
4. Machine weight without auxiliary equipment
5. CE mark installer

5 OPERATING ENVIRONMENT

5.1 PURPOSE OF USE

Junkkari HJ500 C chipper is designed to chip logs that based on diameter and other dimensions fit into the feed chute. Logs should be clean. Dust, sand, and soil wears the knives quickly. Metal objects, such as nails, causes dents in knives. Larger metal objects may damage the chipper.

Contact the manufacturer's representative if other use, such as paper rolls, plastic pipes, MDF panels are planned for chipping.

5.2 LIMITATIONS ON USE AND FORBIDDEN FORMS OF USE

Operator limitations

Chipper operator may not be under the influence of drugs, alcohol, or heavy medication.
In case of sickness or disability, the permit to operate the machine must be obtained from the doctor.
The chipper cannot be operated by a person that does not have appropriate knowledge and skills, or is under 15 years old.

Forbidden forms of use

Machine should not be fed manually by hand.
Machine should not be cleaned or serviced when disc is rotating.
Machine cannot be used in protected nature area.
Machine use should be avoided in the areas where it causes noise and dust issues to the environment.
The machine must not be used for transporting persons or other life forms.

6 OPERATING PRINCIPLE

Hj500 chipper is fed by crane.
It is designed to operate so, that when the wood is being chipped, the knives in the cutter wheel will simultaneously pull the wood in. The feeding speed is depended on the knife setting the following way : A short knife setting results small chip size and low intake speed - a wide knife setting results large chip size and high intake speed.
The produced chips are ejected through the knife openings to the blowing wings, which will blow the chips through the discharge spout either to a trailer or a silo. The discharge spout blowing direction is controlled with a control panel from the tractor cabin. The feed rollers in the feeder are used to speed up the intake of the wood. The feed rollers are driven by hydraulic motors, which are powered by the hydraulic system via control valve. The feed is controlled by a switch or pedals in the tractor cabin. The switch or pedal has 3 positions : feed, stop and reverse.The system is equipped with a cutter wheel axle speed sensor which will stop the feeder in case the axle rotating speed is less than preset value. This will prevent the chipper from “choking” .

7 MACHINE TRANSPORTATION, HANDLING AND STORAGE

(IMPORTER, DISTRIBUTOR, DEALER)

7.1 TRANSPORTATION

- The delivery terms of the product are ex works, unless specified otherwise.
- The buyer (importer) and the factory agree upon a date of the delivery when the product is ready for shipment.
- The factory will arrange the loading of the product on a transport vehicle at the factory premises.
- The transport agency shall be responsible for the product for the period of transportation from the factory to the buyer.
- Eventual remarks concerning the quality of the product or damages developed during transportation must be noted within 8 days from delivery of the product.

7.2 HANDLING

- The product must be handled in the careful manner which is customary in handling all agricultural machinery, without causing any damage to the product.
- No other products must be loaded on top of the machine package.
- The factory will package the product carefully for shipment.
- To prevent paintwork from damaging, the machine must always be lifted using adequately strong slings instead of chains when lifted from the rear end. Chains can be used for lifting in case the machine is being lifted from the front end.

7.3 STORAGE

- The machine must be shielded from direct sunlight and rain and stored in its normal working position.
- In case stored outdoors, check periodically that there is no water left standing on the chipper.
- The machine must always be stored indoors for any long-term storage periods.

7.4 SPECIAL SAFETY NOTES ON MACHINE TRANSPORTATION

- Never attempt to lift the machine from any other point than those clearly marked for lifting.
- Ensure that the lifting device is adequately efficient and safe and that no there exists no danger of the machine overturning or falling down.
- Always use only approved slings or chains for lifting.
- The machine must never be lifted on forklifts, but solely by flexible slings or chains.
- Always check the condition of slings and chains before lifting.
- Keep slings and chains taut whilst turning the machine on its “nose” or wheels to prevent swaying of the machine, which might cause a dangerous situation.
- Always check the lift/reach capacity of the lifting device.
- The machine must always be securely tied down to the platform during transportation.

LIFTING POINT

8 INTRODUCTION OF USE

8.1 PREPARATIONS PRIOR TO OPERATION

Unless otherwise specified, the customer is responsible for other preparations necessary to bring the machine into an operative condition. When initializing operation of the machine, the customer should ensure that all protective shields are in place and that there are no odd objects in the feed opening and the cutter whee rotates freely. Before attaching the machine to the tractor the operator should read the instructions concerning the universal drive shaft in the manual. After these preparations the chipper can be attached to the tractor.

8.2 DISCARDING THE PACKAGING MATERIALS

The wooden and cardboard packaging materials can be disposed of by burning or deposit in a refuse dump. The plastic bags and strings in the packages shall be destroyed according to national regulations, either by recycling or taking by deposit in refuse dump.

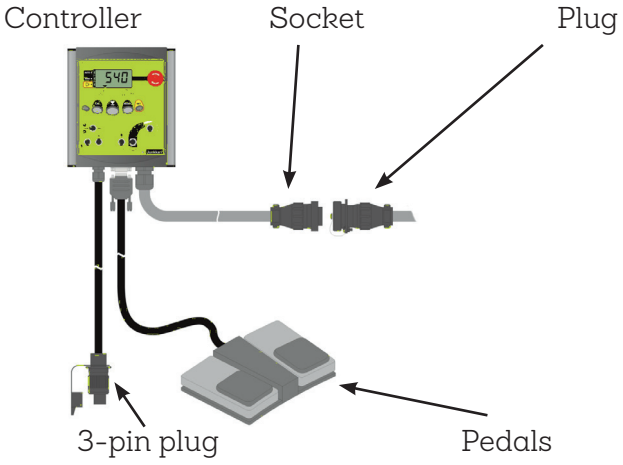
8.3 ATTACHMENT TO A TRACTOR

The chipper is attached to the tractor hitch (ISO 6489/1)

Power take-off
The HJ500 chipper is equipped with a power take-off shaft connection, according to standard SFS-ISO 500 category 3. The chipper is also fitted with security equipment for connecting a PTO drive shaft according to EU directive 98/37, you can connect the universal drive shaft from these directives and norms. Suitable PTO shaft are mentioned at “UNIVERSAL DRIVE SHAFT”.
The power take-off nominal speed is 540 r/min.

INSTALLATION OF THE ELECTRICAL SYSTEM
Install the remote control box to a suitable place inside the tractor cabin, and the socket to the outside of the cabin rear wall, to a suitable place. Connect the remote control to the tractors electrical system with a 12V 3- pin plug, connect the plug from the chipper to the socket and cable from pedals to the control box. Then the chippers electrical system should be in working order.

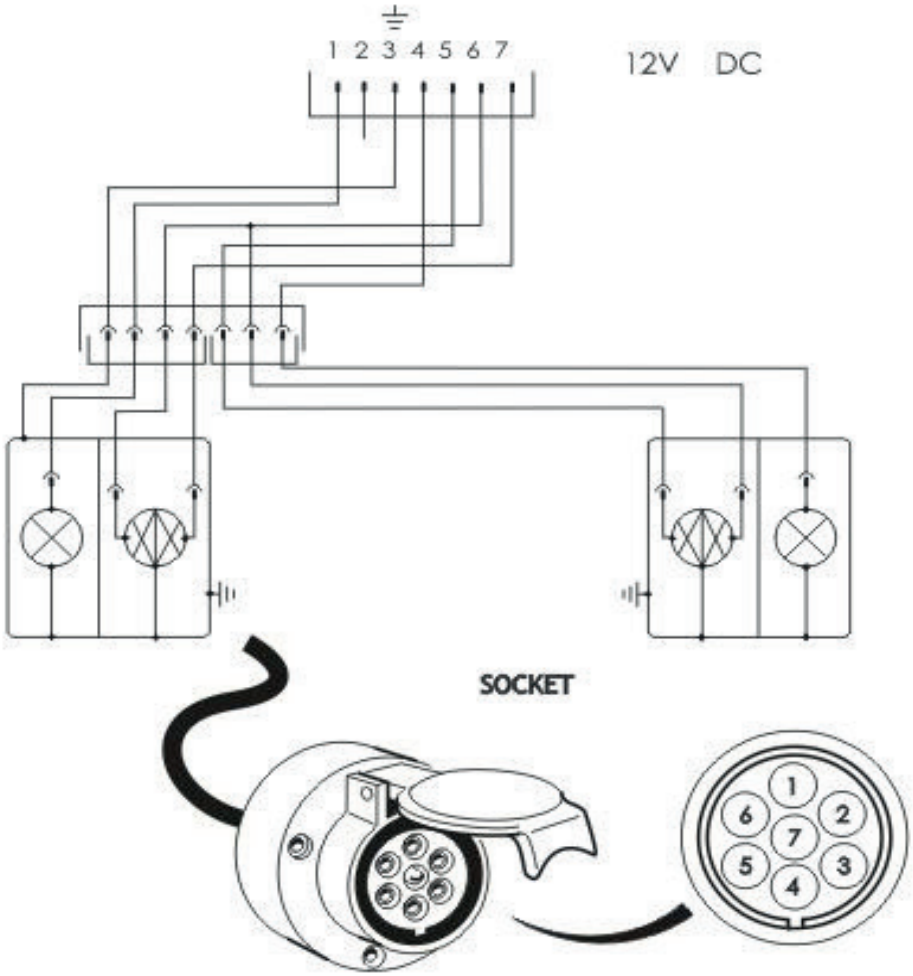
HYDRAULICS
Tipping of upper chamber and conveyor belt need both 1 double acting hydraulic valve from the tractor.



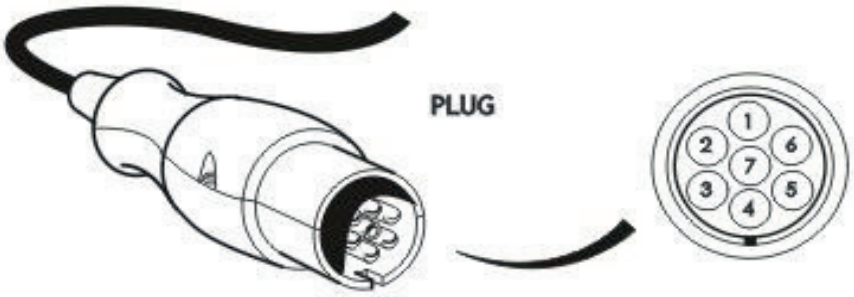
LIGHTING EQUIPMENT

The lighting equipment is connected to the tractor trailer plug. The plug should be a 7-pin socket connector compliant with the SFS 2472 DIN ISO 3732 standard. The lighting equipment operates on a direct current with a nominal voltage of 12V.

Wiring diagram:



1. LHS TURN SIGNAL LIGHT UNIT
2. UNOCCUPIED
3. GROUND
4. RHS TURN SIGNAL LIGHT UNIT
5. RHS REAR LIGHT UNIT AND IDENTIFICATION PLATE LIGHT UNIT
6. BRAKE LIGHT UNIT
7. LHS REAR LIGHT UNIT



8.4 UNIVERSAL DRIVE SHAFT

TYPE OF DRIVE SHAFT

The power transmission at the nominal speed of 540 rpm should be 110 kW and torque should be 2600Nm. The secondary drive shaft must be fitted with an overrunning clutch and an overload clutch. A suitable type of primary drive shaft would be, for example : WALTERSCHEID W2600-SD35-1210-S5G/S6 and a suitable type of secondary drive shaft would be: WALTERSCHIED W2600-SD35-1210+F5/2(R)-K66/22.

LENGHT OF DRIVE SHAFT

The universal drive shaft must be of a proper length, both for operator safety and the durability and functioning of the shaft itself. The overlap between the drive shaft tubes must at least half the tube length. If it is too long, the shaft will bottom causing the shaft to fail. If it is too short, the shaft may fall apart when raising the implement forming a risk of serious damage.
With the overlap too short, it is also not possible to achieve sufficient power transmission without damaging the shaft.

SHORTENING THE DRIVE SHAFT

1. Determine the shortest drive shaft length required by lifting the machine (see Fig. 1).
2. Mark the cutting points, leaving a 25 mm (1") length in reserve (see Fig. 2).
3. Cut off equal lengths from each drive shaft half, both from the inner and outer tubes in both halves, (see Fig. 3).
4. Using a file, file cut the ends to remove any sharp burrs and clean all of the shaft tubes.
5. To complete the job, lubricate the shaft thoroughly.

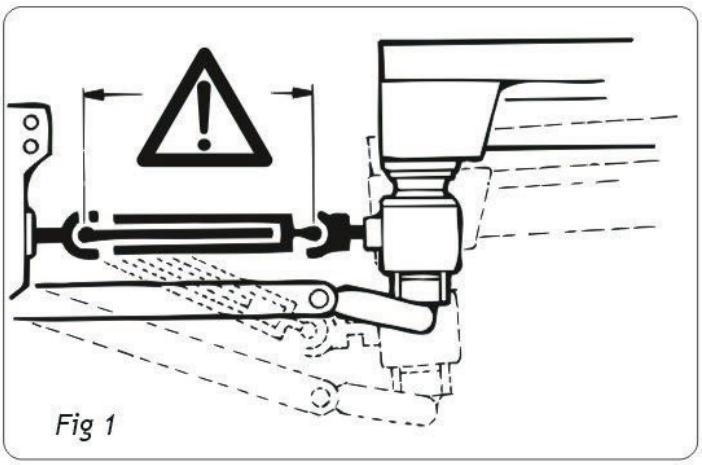


Fig 1

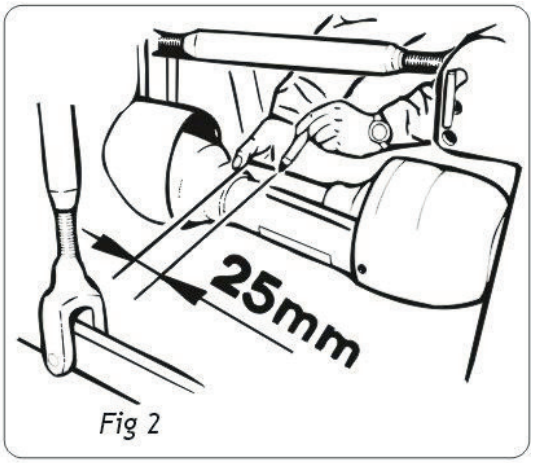


Fig 2

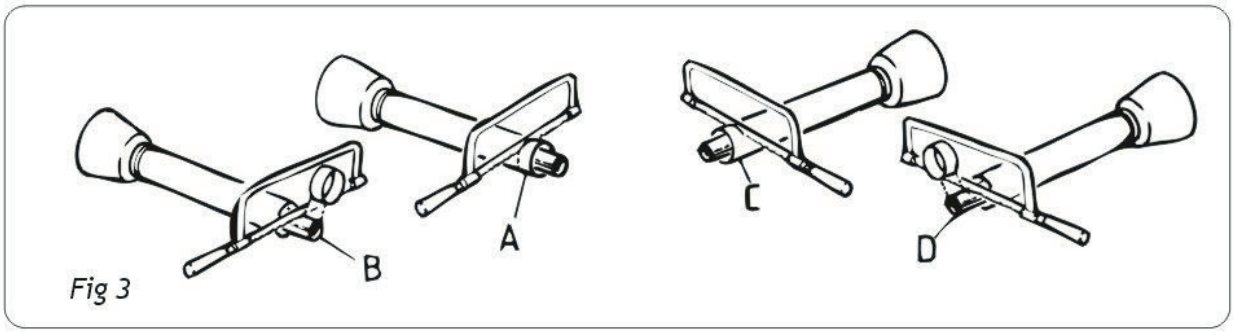
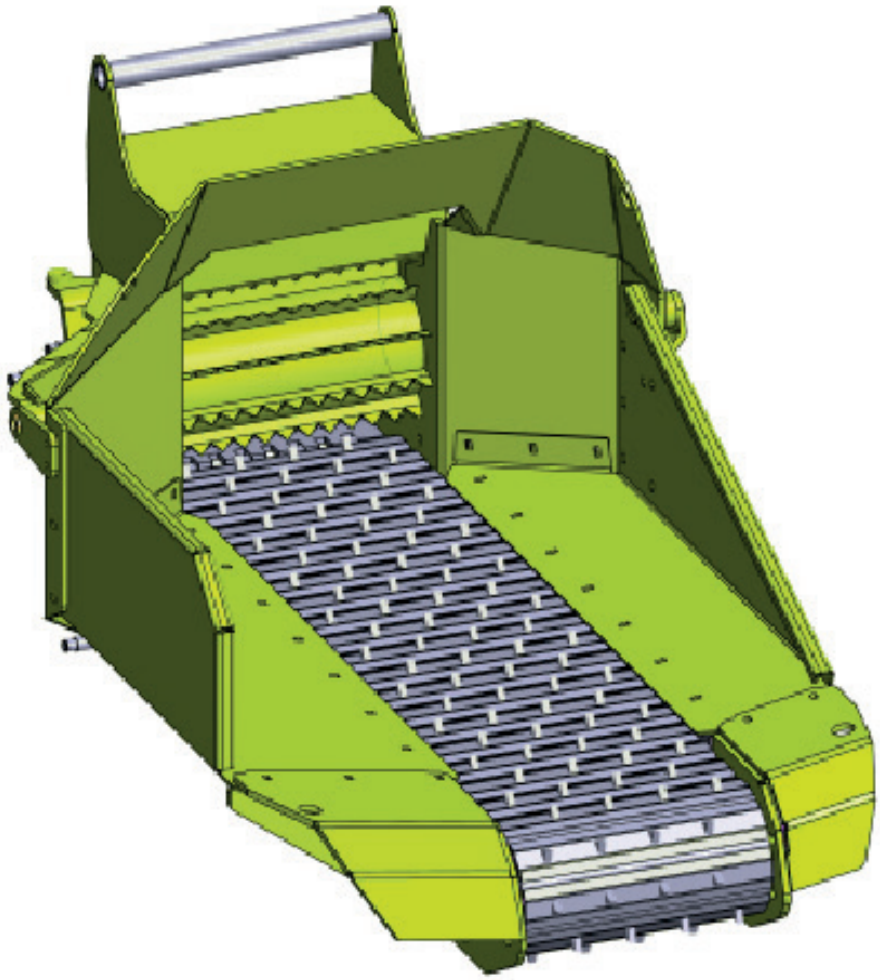


Fig 3

8.5 FEEDING CONVEYOR (OPTION)

Conveyor is turned to working/transport position with tractor hydraulics.

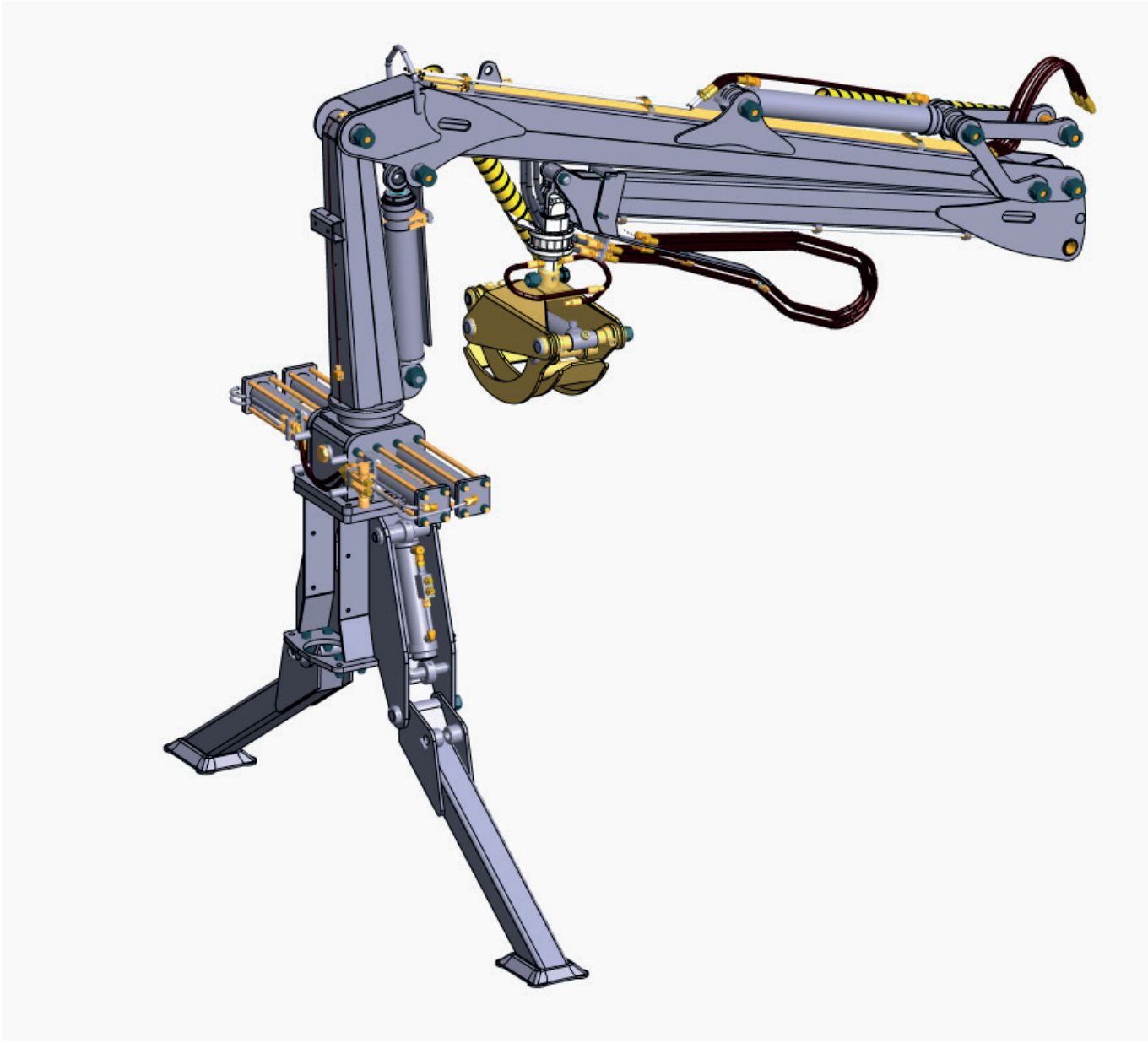
Other functions are handled with Wizard C+ controller from the cabin. See part 15, WIZARD+ controller.



8.6 CRANE (OPTION)

The crane is intalled at the chipper's drawbar with bolts.
It is operated with tractor hydraulics.

Instructions for the crane: look at the Cranes own operator's manual.

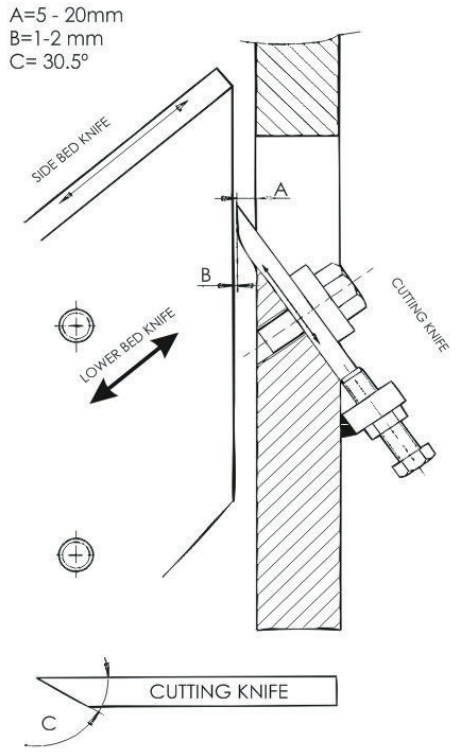


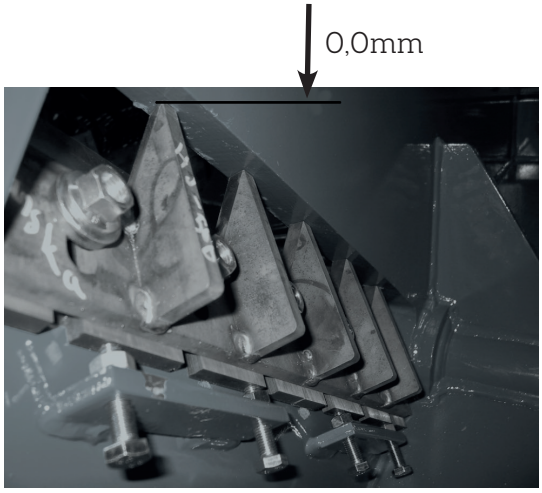
9 ADJUSTMENTS

PLEASE READ THESE INSTRUCTIONS VERY CAREFULLY AS THE MOST IMPORTANT POINT IN THE OPERATION OF THE CHIPPER IS THE CONDITION OF THE KNIVES AND THEIR CORRECT ADJUSTMENT!

9.1 KNIFE SETTING

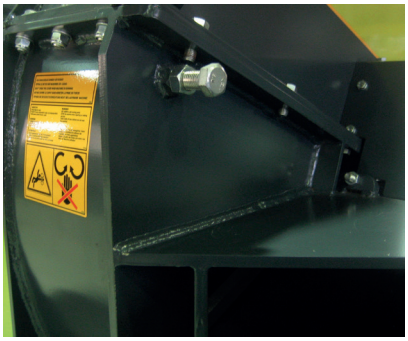
The knife setting (measurement A) may be adjusted within the range of 5 to 20 mm. The smaller the setting, the smaller the chips the chipper produces. On the other hand, the knife setting affects the intake speed in the manner that a larger knife setting results in a faster and better intake of material. To adjust, loosen the knife attaching screws (6 pcs/knife) and the locking screws (4 pcs/knife). Open the bed knife attaching screws and pull out both bed knives towards the feed chute and adjust to desired position. Move one of the cutting knives to desired distance from the cutter wheel. Tighten the attachment and lock screws of the knife in question. Move the bed knives to leave a gap of c.a. 1-2 mm (measurement B) from the cutter knife. Tighten down the bed knives attaching screws. Proceed to adjust the remaining 3 cutting knives bringing each one in turn to the adjusted bed knife and adjusting each knife to leave the 1-2 mm gap ('B') between each knife and the bed knife. Finally tighten down all knife and bed knife attaching screws to a tightness of 300 Nm. Rotate the disc by hand to ensure that the cutting knives do not make contact with the bed knives and that the gap ('B') between the knives and bed knives equal (1-2 mm) for each cutting knife. Finally, tighten down the cutting knife locking screws against the rear edge of each knife to a 50 Nm tightness.



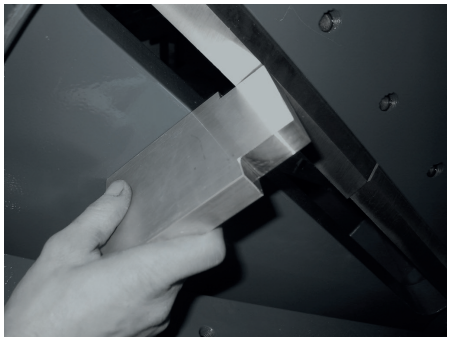


BRUSHKNIFE (extra) mounted on standard knife. NOTE! Max A-measure 15mm if brushknifes are installed.

SCRAPEBOLT, is adjusted 1mm away from the cutter wheel surface.



SETTING GAUGE

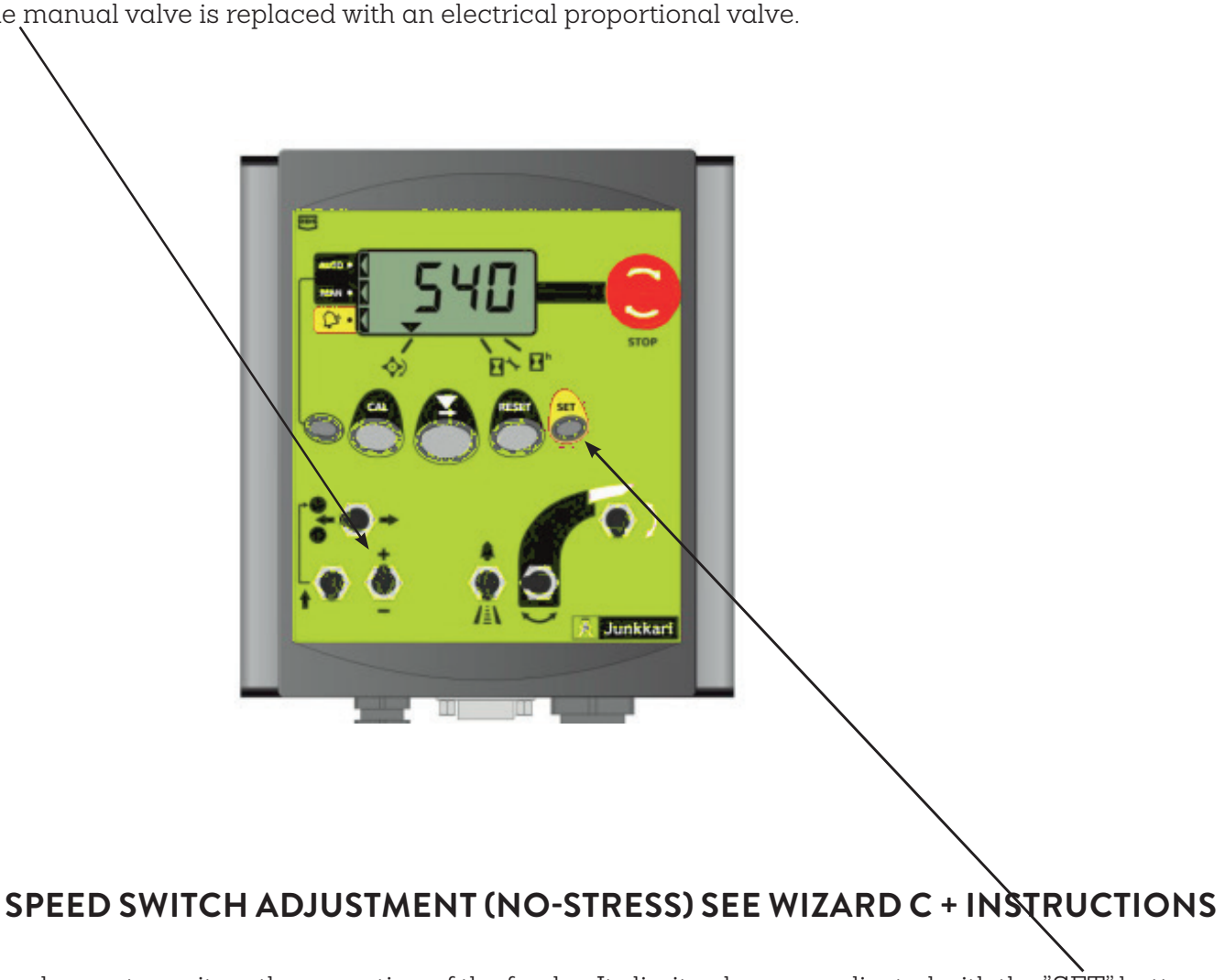


9.2 FEED RATE ADJUSTMENT

Chipper feed roll speed must be synchronized to the knife cutting speed. If the feed roll speed is too high compared to the knife cutting speed, the rolls spin.
If the feed roll speed is too low compared to the knife cutting speed, the feed is jerky.
The adjusment is made strating with low rotation speed where kives try to pull logs through between the rolls. The feed roll speed is increased until it is in sync with the disk knife settings.

ADJUSTMENT WITH A CONTROLLER

+ / - Switch is used to either increase or decrease the feed speed.
The manual valve is replaced with an electrical proportional valve.



9.3 SPEED SWITCH ADJUSTMENT (NO-STRESS) SEE WIZARD C + INSTRUCTIONS

Speed sensot monitors the operation of the feeder. Its limit values are adjusted with the ”SET” button in the controller. The value is set at appreoximately 400 rpm at the factory.

No-Stress rotational speed setting:
1. Adjust the tractor PTO speed to the level where the feeder should stop.
2. Press and hold “SET” button until the display shows ”done”
3. Increase the PTO speed to normal working level.

10 OPETATION

Hj500 Chipper is intended to be fed with a loader. If required, the material to be chipped must be prepared by removing all strong branches, roots, or splits so that the log fits into the chipper spout. The logs should be arranged so that the transfer distance is minimized wich allows for maximum throughput and the continouos material flow also produces the best quality chips.

11 MAINTENANCE

READ THE SAFETY INSTRUCTIONS

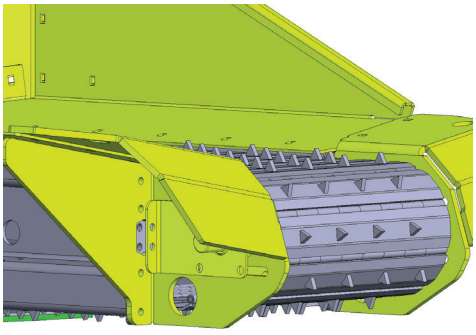
MAINTENANCE AND REPAIRS
1. Before cleaning, lubrication, installation, or adjustment works always ensure that the PTO is turned off and the motor is stopped.
2. Supprot the machina properly before starting the maintenance work.
3. Do not open upper chamber by hand.

11.1 SHARPENING THE KNIVES

The knives are sharpened to the 30.5 degrees (C) at the factory. The knives must always be sharpened to this angle as smaller angle will cause the knives to chip, and larger angle will reduce the clearance angle causing decreased pull to feed the logs into the chipper.

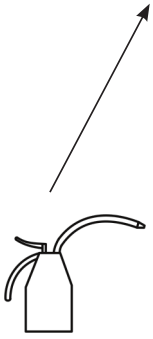
Note, that during the sharpening the knife should not get hot as this will destroy the hardness achieved by tempering. Because of this the sharpening must be done by grinding. Additionally the knives should be ground to same weight to balance the knife disk.

Usually the bed knife does not require sharpening. Bed knife may get round if materials harder than wood get into the chipper (nails, sand, etc.). In that case the bed knife can be ground straight with using for example side grinder. However, typically the bed knife is maintenance free.



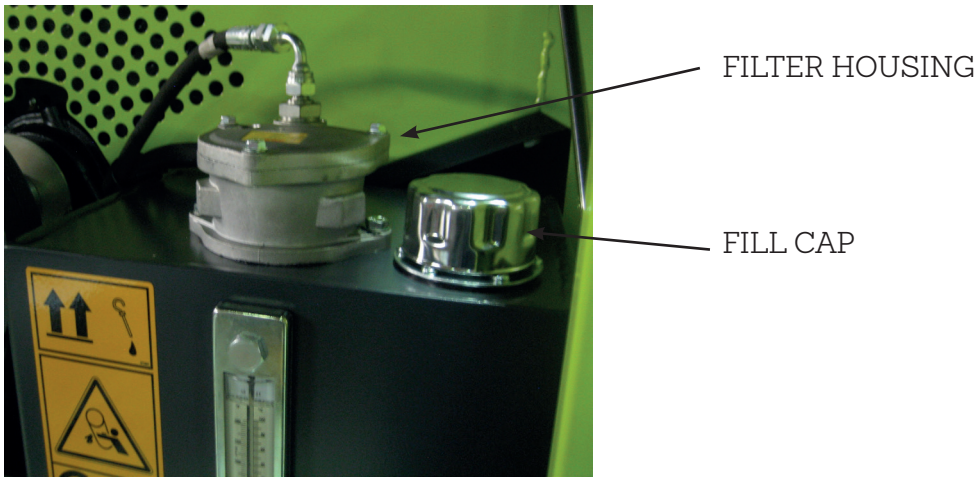
11.2 LUBRICATION

Disk shaft bearing	2 pcs :	50 h	
Drive shaft intermediate bearings	1 pcs :		50 h
Feeder bearings	4 pcs :		50 h
Blow chute rotation	1 pcs :	50 h	
Blow chute tilt	2 pcs :	50 h	
Universal drive shaft (according to manufacture's instructions)			
Conveyor chain		50 h	Vaseline spray
Hydraulics			
First oil change		50 h	
Changes thereafter		200 h	
First filter change		50 h	
Changes thereafter		200 h	
Oil type		Hydraulic oil 46 during summer (ISO-VG viscosity class) and winter 32 or 22 depending on conditions.	
Volume		52 L	



11.3 HYDRAULICS MAINTENANCE

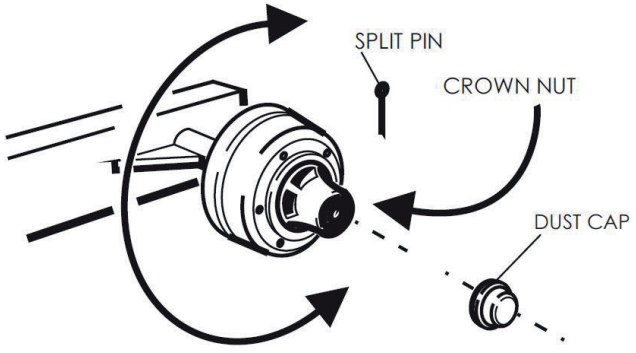
1. Check the tank oil level before operating the chipper.
Oil volume is approximately 52 L and level can be inspected through the sight glass. The level is correct when the surface can be seen through the glass.
2. Change the hydraulic oil and filter after first 50h of use. The filter is mounted on the chipper frame front wall next to the tank. The tank has a plug at the bottom for removal of the oil.

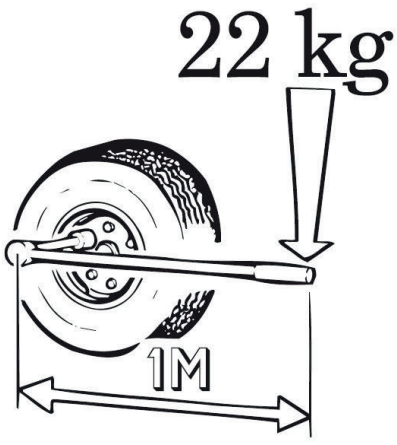


HYDRAULIC OIL TANK

11.4 ADJUSTMENT AND TIGHTENING OF THE WHEEL HUB

The crown nut is tightened until the hub cannot be turned by hand. Then loosen the nut for c.a. 1/5 turn, and fit the split pin to the nearest slot in the crown nut.
The free rotating of the wheel is checked by turning the wheel by hand.
Suitable bearing clearance on design load is 0,05-0,15mm.
The eventual heating of the bearing must be observed tightly during the first driven kilometres, and the clearances must be checked after three hours drive and adjusted if necessary.





TIGHTENING OF THE WHEEL BOLTS

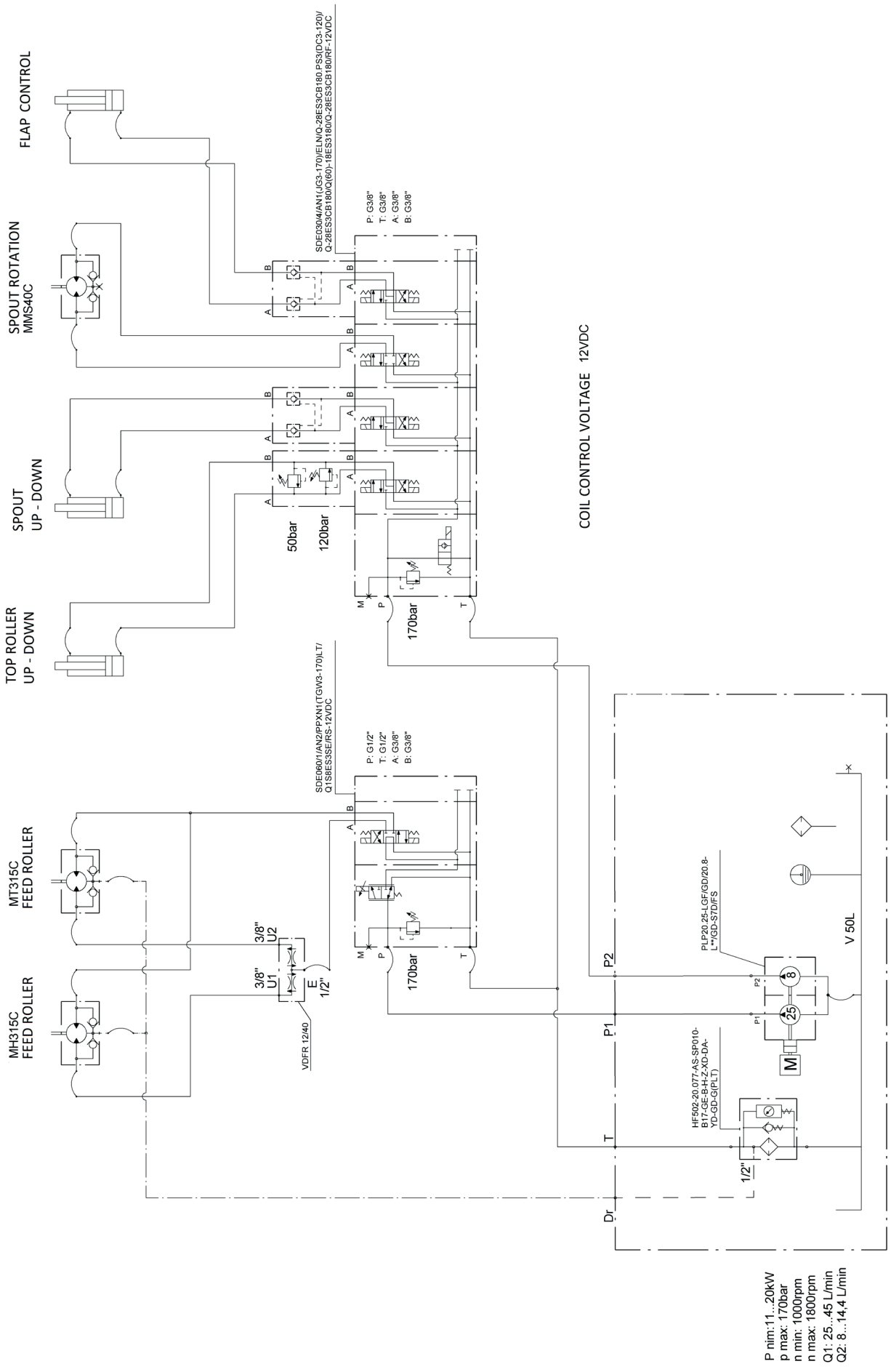
12 TRUOBLESHOOTING CHART

ERROR	CAUSE	CORRECTIVE ACTION
The does not pull logs in.	Worn knives Wrong cutting angle Upside down knife.	Sharpen and install knives according to manual.
Uneven chip size.	Knife clearance (B.) is too great. Single logs turn sideways after passing the feed Rollers.	Adjust knife clearance according to manual. Feed logs as continuous flow.
The discharge spout gets blocked.	Too low rpm.	Increase the rotation speed to 540 – 1000 rpm.
High power requirement – compared to the machine.	Power supply too small Knife setting (A) too large.	Decrease the knife setting
Lack of feed roll power	Oil level too low. Hydraulic pump belts loose. Hydraulic pressure too small.	Add hydraulic oil. Tighten the V –belts. Check pressure 200bar.
Feed rolls don't turn.	Water in the tank (winter) Emergency stop button pressed. PTO rpm < No – stress set rpm. Sensor detection distance too large.	Unfreeze, remove water, and change oil. Release emergency stop button. Increase PTO rpm or adjust NO – Stress Adjust distance to 2 – 5mm
Feed rolls stop	Loose electrical connection No –Stress sensor too far Relay defective Rocker switch broken Hydraulic pressure too low.	Check electrical connections Adjust distance to 2 – 5mm Replace relay Replace switch Adjust pressure to 200bar.
Discharge spout rotation or flap adjustment don't work	Relay D40589 or base D40590 defective Rocker switch broken	Replace relay or base Replace rocker switch
Fed logs shake.	Feed rolls are not in sync.	See synchronization instruction.

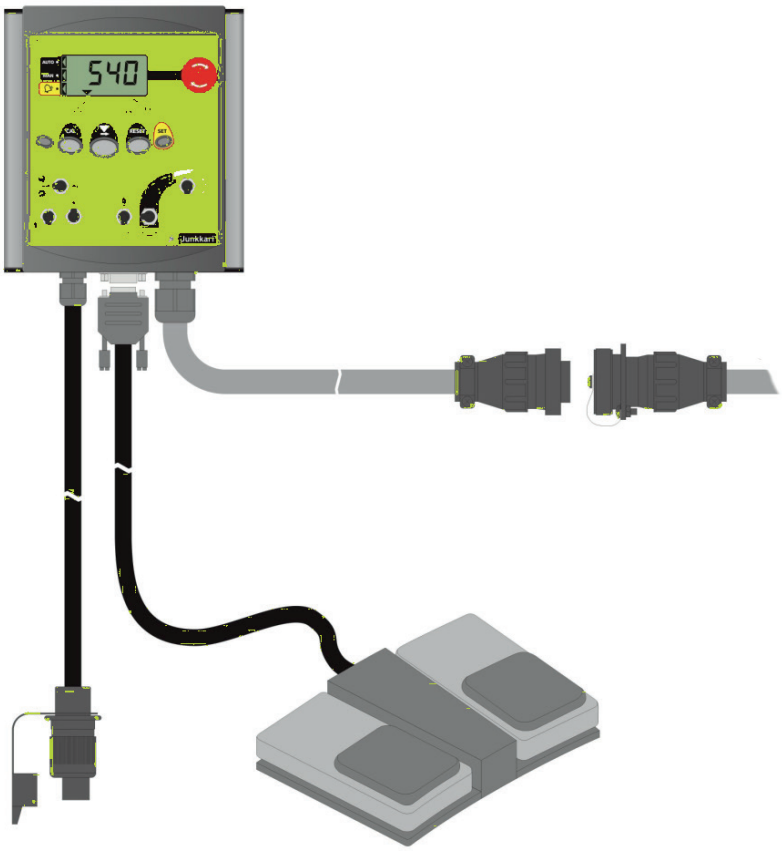
Chipper normal wear occurs safely and does not cause dangerous situations. In practice only wear items are knives. If the bearings show axial clearance, the adjustment should be performed by an expert.

NOTE THAT THE MACHINE IS INTENDED FOR A PROFESSIONAL OPERATOR. THEREFORE THE USE OF THE MACHINE ASSUMES SUFFICIENT GENERAL KNOWLEDGE AND SKILLS.

13 HYDRAULIC SCHEMATIC



14 WIZARD C+ CONTROLLER



Junkkari chipper Wizard C+ controller is equipped with illuminated 4 number digital display, with the following functions:

-Blow chute transportation / working positions
-Blow chute rotation right / left
-Visor adjustment up / down
-Log feed direction selection: feed in - stop -feed reverse
-Log feed control also with foot pedal
-Top feed roll lift / push with foot pedal / switch (option)
-Knife disk speed (rpm)
-Feeder speed adjustment (%) (option)
-Maintenance frequency display (h)
-Working time (h), time 1 and 2
-No-Stress speed setting (rpm)
-No-Stress delay setting (%)
-Feed reverse delay setting (s)
-Feed reverse time setting (s) (pulls the ogs away from the knives during no-stress situation)
-Max knife disk rotation speed setting (rpm)
-Emergency stop / main power switch.

Controller has two memory registers that store the working time 1 (tot1) and working time 2 (tot2)

The knife disk speed is default display unless the feeder speed, time to next maintenance, or working time 1 or 2 is active.

14.1 BASIC SETTINGS

Wizard C+ controller has three types of basic settings:

Wizardin internal basic settings (first basic setting)
- when the controller is reset back to the initial settings, it will resume these default values.

Values programmed by Junkkari (second basic setting)
- programmed by the machine manufacturer
-Junkkari modifies the values to suit specific machine

User programmed values (third basic setting)

Programming state 1:
Press and hold CAL for five (5) seconds during the selected function, set the value with button.

Function	Programmed value	Basic setting (Wizard)	Basic setting	Basic setting (User)
Channel 2. %	No-Stress delay	10	10	----------
Channel 5. h	Maintenance interval	100	100	----------

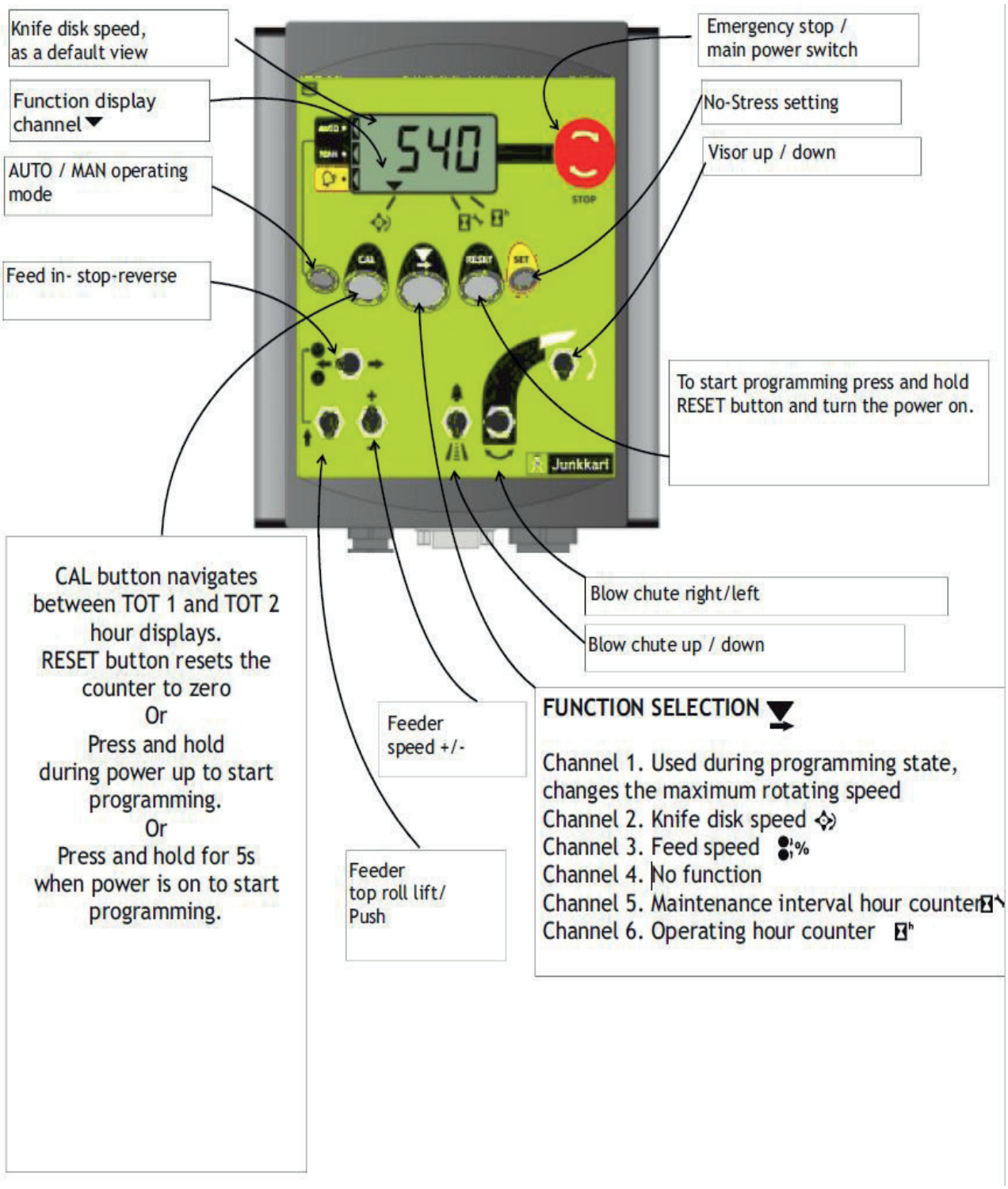
Programming state 2:
Turn on the power and simultaneously press and hold CAL for five (5) seconds, the display shows "CAL2". Select the function with CAL button. Set the value with button, the flashing number changes when button is held down.

Function	Programmed value	Basic setting (Wizard)	Basic setting	Basic setting (User)
Channel 1. Rpm	Max. Speed of cutting wheel	1500	1500	----------
Channel 2. Rpm	No-Stress setting	400	400	----------
Channel 3. Rpm	Min. Speed of cutting wheel	100	100	----------
Channel 4. %	Feed speed top limit	80	80	----------
Channel 5. %	Feed speed bottom limit	20	20	----------

Programming state 3:
Turn on the power and simultaneously press and hold RESET for ten (10) seconds, the display shows"CAL3". Select the function with RESET button. Set the value with button, the flashing number changeswhen button is held down.

Function	Programmed value	Basic setting (Wizard)	Basic setting	Basic setting (User)
Channel 1. On / off	No-stress alarm	on	on	----------
Channel 2. Ppr	Pulses / revolution	2.000	2.000	----------
Channel 3. S	Feed reverse delay	0,2	0,2	----------
Channel 4. S	Feed reverse duration	0,3	0,3	----------
Channel 5. On / off	Emergency Stop	on	on	----------
Channel 6. H	Total working time	on	on	----------

14.2 FUNCTION SUMMARY



14.3 DISPLAY VALUE DURING CHIPPER

14.3.1 KNIFE DISK SPEED

When the power is turned on, the controller displays default is knife disk speed rpm.

3. Channel can be changed using arrow button. If arrow button is used to change the channel the controller will return after 10 seconds to the channel that displays the rotation speed.

14.3.2 FEEDER SPEED

Arrow button may be used to move to the channel 3 that shows the feeder speed in Percentage.

14.3.3 NEXT MAINTENANCE

When arrow button is used to move to channel 5 location, the display shows the hours remaining till the next maintenance.

14.3.4 WORKING TIME HOUR COUNTER

Wizard C+ controller has two hour counters, tot 1 and tot 2.
Use arrow button to move to channel 6.
CAL button can be used to select either tot.1 or tot.2.
Holding RESET button down will cause the counter in question to reset to zero.

14.4 NO-STRESS

14.4.1 NO-STRESS SPEED LIMIT SETTING

METHOD A

1. Adjust the tractor PTO speed to a level where the feeder should stop.

2. Press and hold ”SET” button until the display shows ”done”.

3. Increase the PTO speed to normal working level.

This way the value will remain in the controller memory even when the power is turned off.

METHOD B

1. Hold CAL button pressed and turn the power on, the display shows CAL2.

2. Release CAL button

2. Use CAL button to move the pointer to channel 2 location.

3. Use button to select the required value.

   Hold button pressed to change the value. Release the button when the required value is shown.

4. Turn the power off at which time the value will be stored into the memory.

14.4.2 NO-STRESS DELAY SETTING

When the power is on.

1. At channel 2 hold ”CAL” button pressed for 5 seconds.

2. Hold ”CAL” button pressed while using arrow button to change the value.

This % value can be chosen between 1...25. The larger the value, the longer the delay in feed restart.

14.4.3 FEED REVERSE DELAY

When No-stress the system will reverse the logs away from the knives. The delay and duration of this feature can be adjusted to user’s preference.

1. Hold RESET button pressed and turn the power on, hold RESET button pressed for 10 seconds and the display shows CAL3.

2. Use RESET button % to move to channel 3 this value is the reverse delay.

3. Value can be changed using arrow button, hold the button pressed and the flashing value is selected.

4. Use RESET button to select channel 4, this value is the reverse duration. The value is changed like section 3.

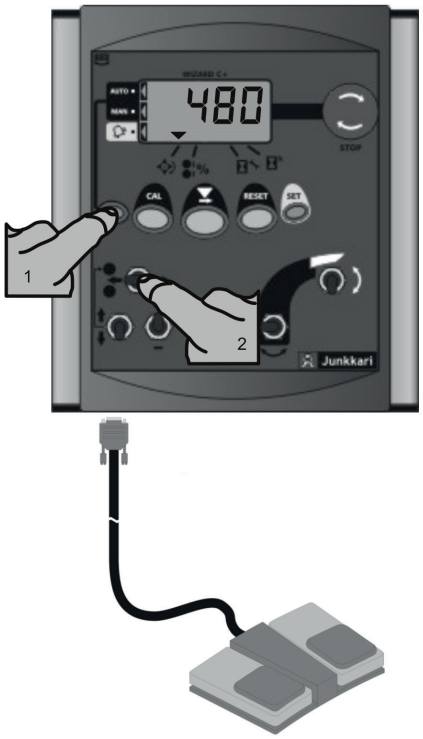
14.5 FEED CONTROL

14.5.1 FEED DIRECTION SELECTION

The controller has two modes for the feed operation, AUTO and MAN. The mode is selected 1. With push button on the left, hold button pressed for 5 seconds and the pointed switched between the AUTO/MAN modes. Default mode is MAN when the power is turned on.

MAN mode requires that the rocker switch 1 is pressed to continue feed, and when released the feed stops.
In AUTO mode the feed stays on 2 but it has a small delay in start and stop.

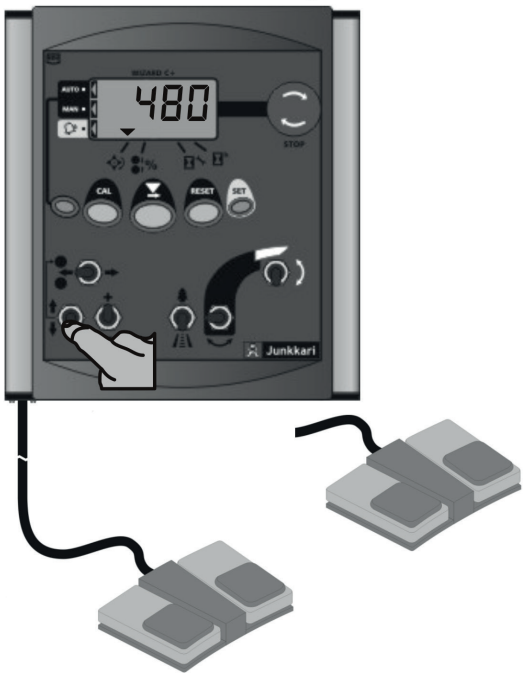
Feed direction can be controlled with the rocker switch or foot pedal. One pedal will feed in, and the other pedal reverses.



14.5.2 TOP FEED ROLL LIFT / PUSH (OPTION)

When the fed material is large, it is good to open the feed spout more so the material flows better in, and when feeding sparse stick bales, it is good to apply more pressure by pressing the top roll down.

Chipper models Hj350 and Hj500 can be equipped with optional top roll lift / push (item 45315). This feature can be operated with a controller rocker switch, or with separate foot pedal. In that case both the feed direction and the top roll has their own foot pedal.



14.5.3 MAXIMUM KNIFE DISK ROTATING SPEED

When chipping dry hard food it is recommended to limit the disk maximum speed to for example 750rpm. Then the feeder is stopped when the 750rpm is exceeded and the burning of the knives is prevented.

Setting the maximum knife disk speed:

1. Hold CAL button pressed and turn the power On, the display shows CAL2

2. Release CAL button

3. Use CAL button to move the pointer to channel 1 location

3. Use button  to select the required value.

Hold button  pressed to change the value.
Release the button when the required value is shown.

4. Turn the power off at which time the value will be stored into the memory.

15 REMOVING MACHINE FROM SERVICE

READ THE SAFETY INSTRUCTIONS

Removing the machine from service as a whole is the responsibility of the end user, or the person or company that owns the machine at the time of removal.
The removal of the machine from service and the handling of the resulting waste are controlled in all countries by national laws, instructions, and regulations that must be followed.
Most of the chipper parts do not disintegrate in the nature by themselves and therefore the chipper must be disassembled and different material must be disposed according to national regulations. Steel and other metals are recycled via junk yards to be reused again. Waste oil, plastics, and other rubber parts such as tires and handled as hazardous materials and disposed either by recycling or transporting as appropriate to the junk yards, or disposed by other means as per the national regulations. Additional information regarding disassembly and waste handling can be requested from environmental authority.

16 WARRANTY POLICY

1. Warranty period is 12 months is agricultural use in work for which the equipment is intended.
2. Warranty period starts on the date when the authorized retailer releases the equipment.
3. Warranty covers material and manufacturing flaws. Damaged parts are repaired or changed to operational parts at the factory or authorized repair shop. Subcontracted parts have warranties provided by their manufacturers.
4. Warranty repairs do not extend the warranty period.
5. Warranty does not cover damages caused by the use or maintenance against the instructions in the manual, excessive loading, or normal wear. Warranty does not cover consequential damages, shutdowns, travel expenses, freight, daily allowances, overtime, or change of the machine original structure.

For warranty claims contact the retailer that sold the machine and they will complete the claim. Before taking any action, the actions and possible costs must be agreed upon with the manufacturer in advance.

The warranty is in effect only if effect only if the warranty card in appropriately filled and returned to the manufacturer within 14 days of the delivery date.

17 SCOPE OF LIABILITY

The manufacturer shall not be responsible, if the machine is not used in compliance with the applicable law, safety regulations or instructions under this manual. Because it is possible that the user faces situations when using the machine that are not instructed or regulated, the action of the operator should comply with the general machine safety directions and directives.

The manufacturer is not responsible for the damages caused by the use of other manufacturer's components. The manufacturer is not responsible for the damages caused by the use of the chipper to the other machines or equipments. The manufacturer reserves all rights.
The owner is responsible for operating the machine, care, and maintenance, unless agreed otherwise. The owner is responsible for providing enough information regarding the handling and use of the machine to the machine operators.

18 EC DECLARATION OF CONFORMITY

EC DECLARATION OF CONFORMITY FOR MACHINERY (EN)
Junkkari Oy
Pohjanmaanväylä 1720,
FI-62375 Ylihärmä, Finland

Herewith declare on our sole responsibility that for the market produced machine

HJ500 strated from serial number HJ500100049

is manufactured, where applicable, in conformity with provisions of the instructions of the normative document according to the following directive: 2006/42/EY

JUNKKARI OY
Kauhava 19.4.2016

Harri Hytönen
Toimitusjohtaja

Tarmo Kukkola are authorized to collect the machines technical structuraldata.

Tarmo Kukkola
R&D Manager
Junkkari Oy, Pohjanmaanväylä 1720, 62375 Ylihärmä, Finland
Tel +358 (0)10 480 2534
tarmo.kukkola@msk.fi
www.junkkari.fi

ORIGINAL

Junkkari

Part of the MSK Group

A GOOD WAY TO WORK HARD