

HEMP HARVESTER

TYPE RMT D series 03



Year of manufacture:

N°: EC Series:

Manufacturer:

KIRPY

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MAINTENANCE BOOKLET

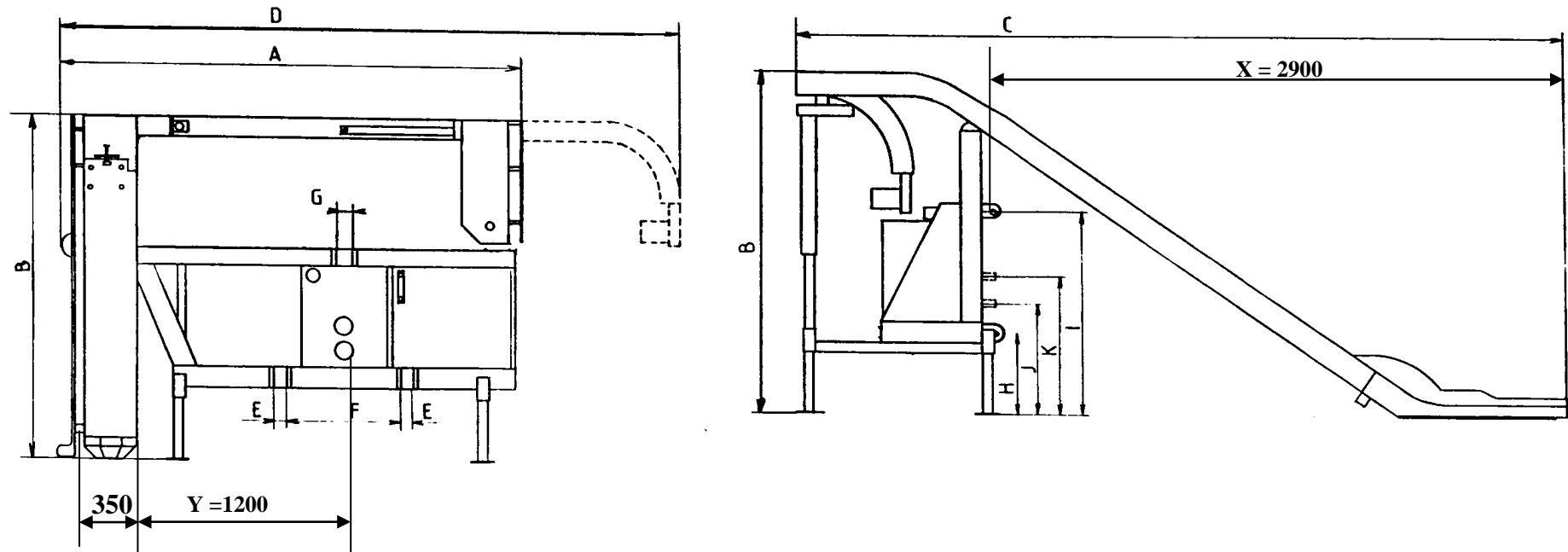
SUMMARY

USE - MAINTENANCE	
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HEMP HARVESTER

characteristics



A	B	C	D	E	F	G	H	I	J	K	PTO speed	Weight	Required power	Transmission	Hydraulic oil	Multiplier oil
2.5 m	1.95 m	4.10 m	3.85 m	60 mm	650 mm	52 mm	450 mm	1050 mm	620 mm	720 mm	540 t/mn	960 kg	40/50 C.V.	hydraulic	H V 68	L P 80/90
Folded dimensions			unfol ded	Hitch					Multiplier height					Capacity In liter	90	0.20

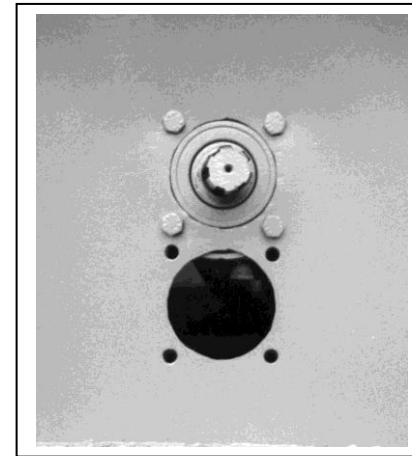
HARVESTER HITCH.

- The Hemp harvester is hitched to the tractor by a traditional three-point linkage system. Category 2
- The machine being placed on its stabilizers roughly gives the normal operating position.
- According to the model of tractor used, it is necessary to match the height of the multiplier of the machine with the height of the power take-off shaft of the tractor to obtain, at work, a transmission in the most horizontal possible position.

The multiplier has 2 positions with respect to the ground, respectively 620 and 720 mm
In the factory, it is fixed on the highest position.

* If it is necessary to lower it.

- Unscrew the 4 screws inside the protective bowl.
- Place the multiplier at its new position.
- Screw down the multiplier.

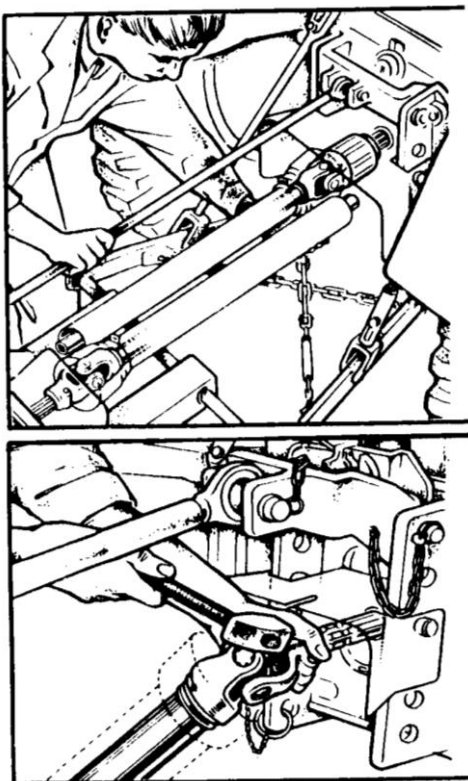


**PROTECTIVE BOWL
REMOVED**

- The high point link of the tractor and high point link of the machine is ensured by a double effect hydraulic cylinder (delivered with the machine) which will be connected on the hydraulic tappings of the tractor.

This cylinder has an adjustable throttle valve making it possible to control its rate of travel.

INSTALLATION OF THE TRANSMISSION FROM THE TRACTOR TO THE MACHINE:



Before putting the transmission into service, make sure that the length of the sliding parts (male and female) is correct. In particular in MAXIMUM lengthening (tool in the raised position) there should be an overlap of more than 200 mm and, in MINIMUM lengthening (tool in the lowered position) the sliding parts should not butt one against the other.

TO VERIFY IF THE LENGTHS ARE CORRECT PROCEED AS FOLLOWS:

Each $\frac{1}{2}$ transmission is fixed at the splined end for which it is intended; but both $\frac{1}{2}$ transmissions are not fitted one into another (see opposite diagram). While maintaining the $\frac{1}{2}$ transmissions side by side, make them undergo the greatest possible variations (maximum and minimum lengthening), i.e.: the high position and the low position; moreover, in each case lateral travel of the traction arms of the tractor. Hence you can check that in minimum lengthening the sliding parts will not butt one against the other and that in maximum lengthening a 200 mm overlap is obtained.

During the assembly of both $\frac{1}{2}$ transmissions on the splined ends, it was ensured that the push rods of quick-locks of the universal joint heads are well engaged in the circular grooves of the splined ends.

For the fit of the $\frac{1}{2}$ transmissions on the splined ends, the hammer should be used only in exceptional cases. If that proves to be necessary never hit directly the cross-pin bearing bushes or the lugs of the yokes; but at the base of the shaft (see diagram opposite).

Note:

The transmission yoke on the tractor side is always delivered in 6 grooves $1\frac{3}{8}$

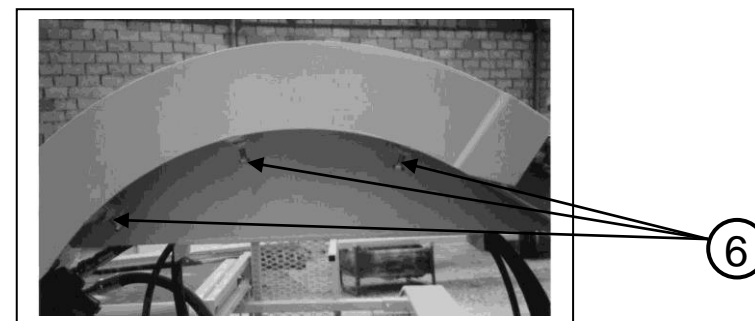
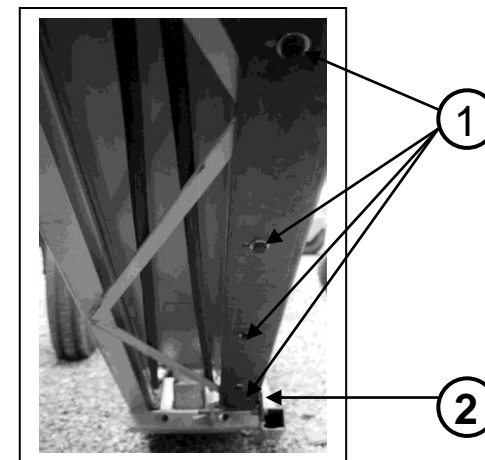
PRELIMINARY ADJUSTMENT

Before beginning the cutting of Hemp plants, it is essential to check:

- The good condition of the circular saw and its sharpening.
It is recommended to carry out a sharpening every approximately 15000 plants.
- Spacing between the support guide and the studded chain.
The spacing must be equal to the average size of the stalk of Hemp plants to cut so that:
 - * The nails penetrate well in the stalk.
 - * The stalk takes support well on the guide.

To carry out this adjustment: (also refer to page 8 for the reference marks.)

- * Loosen the 16 screws mark 1 located under the elevator ramp and of the transverse arm
- * Also release the two nuts mark 3 on the round guide.
- * Act on the 2 adjustment screws mark 2 while checking that the spacing is the same at the top and the bottom of the guide.
- * Act on the 2 adjustment screws mark 2 of the transverse arm in the same way.
- * Retighten the screws mark 1.
- * Act on the two adjustment screws mark 4 of the round guide to keep the same spacing as the guides.
- * Lock the nuts mark 3 of the round guide.
- * Align the stand guide/picking arm mark 5 with the guide.
- * Align the release round-off on the alignment of the guide after having loosened the 3 screws mark 6.



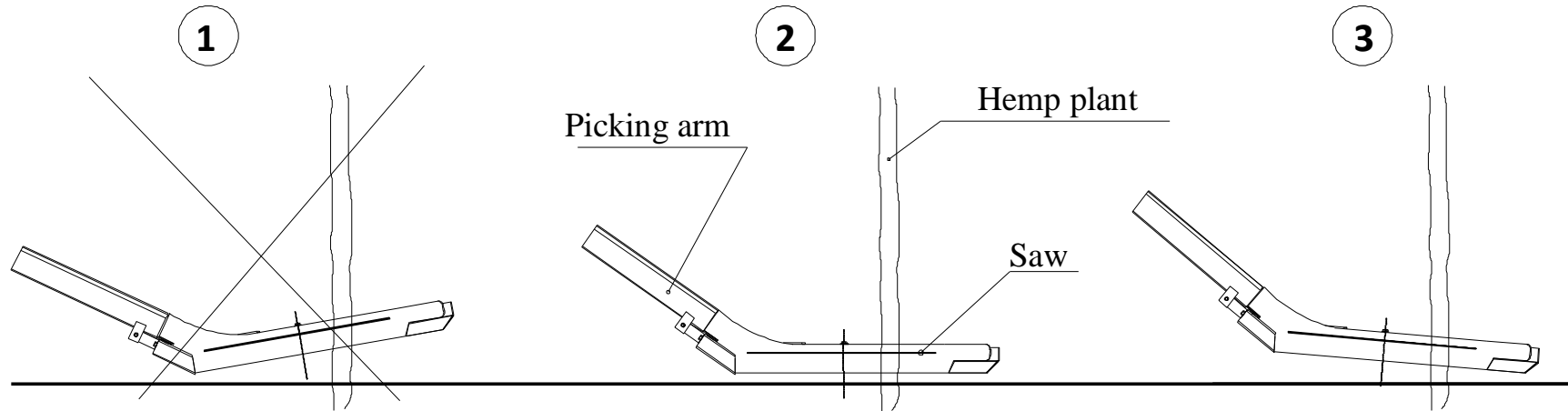
REPLACEMENT OF THE CIRCULAR SAW.

- Unscrew the cutting head's casing.
- Remove the stand guide/picking arm.
- Hold with the pin wrench delivered with the machine, the toothed pulley of the saw bearing.
- Unscrew the nut of the circular saw. →

CAUTION
The nut has a LEFT pitch
(so that the saw won't unscrew during work)

CUTTING OF THE HEMP PLANT

Adjustment of the inclination of the saw (3rd point jack)

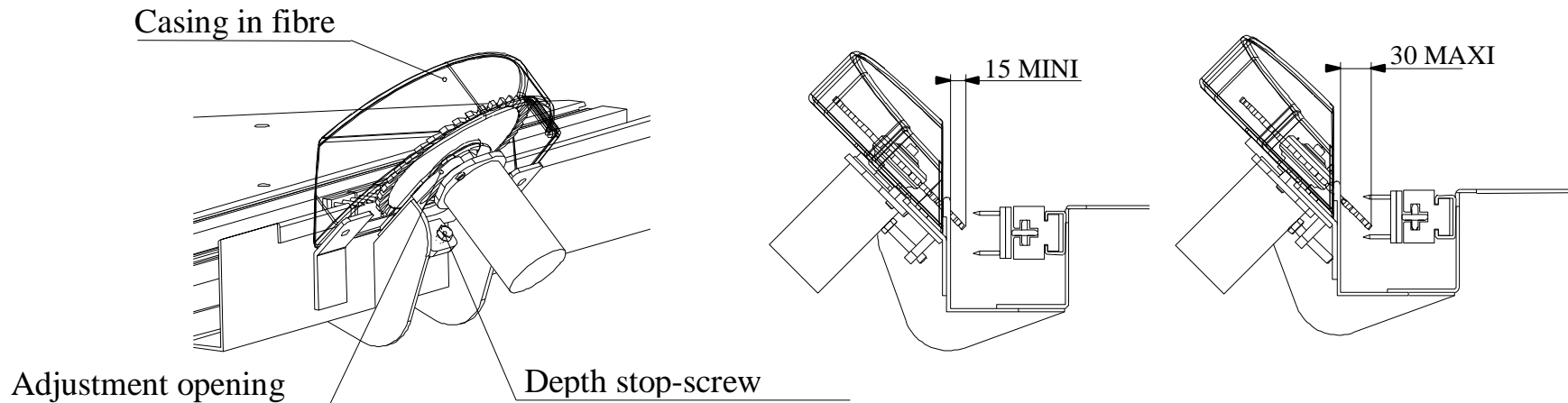


The saw is inclined upwards: it trails
=> Fumes, loss of speed
Heating of the oil.

Horizontal saw: OK.

Saw slightly inclined forwards: OK.

NOTCHING



USE CONDITIONS

HARVESTER OPERATING PRINCIPLE.

The harvester of Hemp consists of a principal chassis on which is mounted a picking arm thus making it possible to carry out in only one pass the 3 following operations:

- The cutting of the Hemp plant at ground level by a circular saw.
- The lifting and the transportation of the Hemp plant to a trailer by means of a studded chain circulating along an adjustable boom:
 - in height according to the desired unloading height.
 - in width according to the size of the plant stem.
- Notching at the base of the plant by two twinned circular saws.

CHARACTERISTICS OF THE TRACTOR TO BE USED.

- Minimum power: 40/50 CV
- Working speed: The tractor must imperatively have crawler speeds and should be able to work at 500/600 meters per hour
- Power take-off speed: 540 rpm
- Hydraulic connection: The tractor should be able to operate a double-acting cylinder for the adjustment of the 3rd point and a single acting cylinder for the adjustment of the unloading section height.
 - * The connections supplied on the hydraulic hoses are of the push ball interlock type.

USE.

- The drive of the machine is entirely hydraulic.
The power take-off turning at 540 rpm.
- The height of the harvester is done by the hydraulic raising of the tractor, by action on the 3rd point cylinder, by maintaining the cutting head at ground level, without touching the ground.

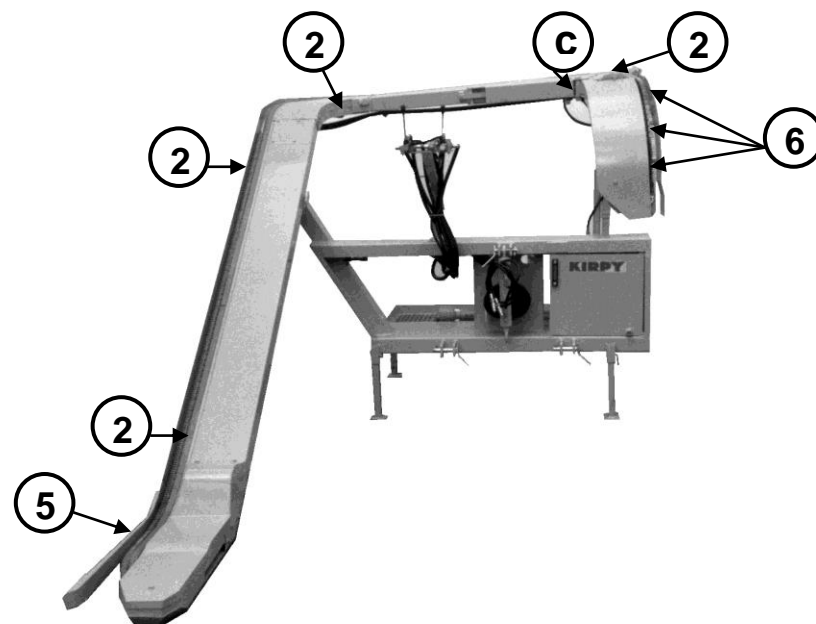
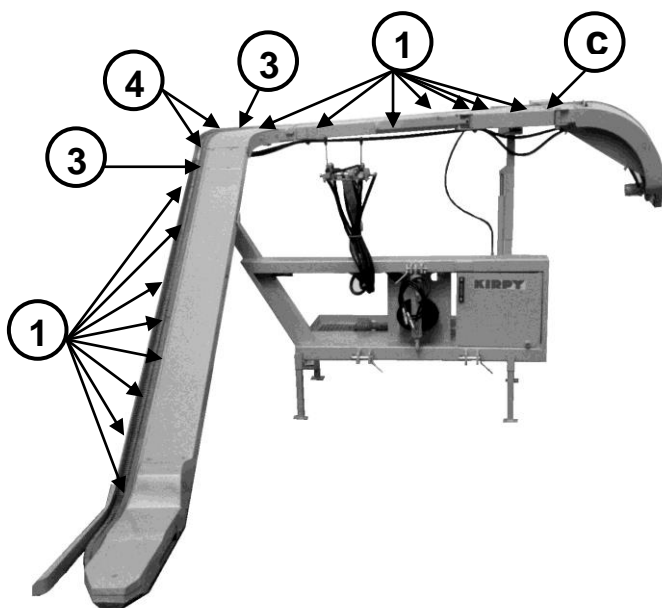
The rear transport arm is articulated. It makes it possible to regulate the unhooking height of the Hemp plant by action on the vertical cylinder.

FOLDING ARM:

To fold up the arm it will be necessary:

- 1 To withdraw the bolt mark C using a 36mm wrench.
- 2 To push the end of the arm to the front of the machine while making sure that the chain is not blocked in the articulations until bringing the moving part above the tank.
- 3 To put back the bolt mark C in the 2nd hole located on the top of the arm to immobilize the unit.

To unfold the arm: carry out the operations in the reverse order.



ROTATIONAL SPEED OF THE HYDRAULIC ENGINES.

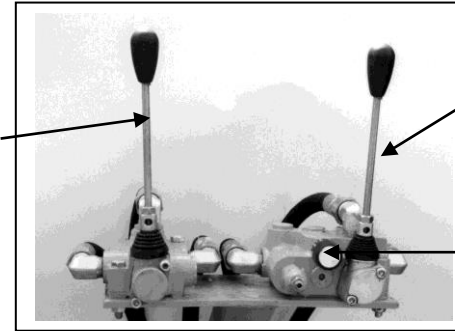
- The startup of the saw is hand operated by the right lever (direction of advance of the machine) reference mark 1.
- The startup of the chain is hand operated by the left lever of the hydraulic distributor mark 2.

Vertical position: STOP

Forward position: GO

①

SAW CONTROL
LEVER



CHAIN CONTROL
LEVER

ADJUSTMENT
THUMB WHEEL

- After having launched the mobile parts by moving forward the control levers, adjust the speed of the studded chain compared to that of the tractor by acting on the oil circulation graduated wheel. (Mark 3, adjustment between 1.8 and 2.5) which will increase or decrease the speed of the hydraulic motor.
- It is not possible to vary the saw's plant cutting speed, which is, in any case, sufficient (2000 rpm).
 - ♦ For a smooth cutting of Hemp plants, it is imperative that the speed of the tractor be identical to the rate of advance of the studded chain. This requires to start work on the tractor's slowest speed at the normal rate of the engine, to present the header to a row of Hemp plants, screw the adjustment thumb wheel to the maximum and to gradually unscrew it to obtain a speed of the chain identical to the tractor's rate of advance.
- Once the good adjustments are obtained with the slowest rate of advance, it is possible to increase the tractor's rate of advance provided that the speed of the studded chain be simultaneously adjusted by acting on the adjustment thumb wheel.
- Synchronization will be good when the Hemp plants are cut smoothly and without rotation.

If the Hemp plant is thrown forwards at the time of the cut, slightly increase the speed of the chain.

If the Hemp plant turns on itself at the time of the cut, slightly decrease the speed of the chain.

It is important to note the speed of the tractor as well as its load and specially to write down the reference mark of the graduated adjustment thumb wheel to avoid repeating the adjustments at each use. If several tractors are used on the same machine, it is most likely that the adjustments will be different.

WARNINGS

1 Before starting and during the use of the harvester, the operator must make sure that no one is nearby.

1 Before any maintenance operations, the harvester must be on the ground and the tractor motor stopped if the machine is coupled.

1 All protection hoods must be fixed in place before operating the machine.

MAINTENANCE

ACCESSORIES

With each machine, the following are supplied:

- ◇ A spare saw blade.
- ◇ One 3rd point hydraulic with 2 tubes.
- ◇ A key for dismantling the saw.
- ◇ Oil to fill the hydraulic tank and the multiplier.
- ◇ A use and spare parts catalogue.
- ◇ A certificate of warranty.

MAINTENANCE GREASING.

IMPORTANT:

Greasing of the conveyor chain (see attached note page 19)

In the first hours: Check the tension of the chain every 2 or 3 trailers.

Every day: Lubricate the transmission from the tractor to the machine (see below).

Check the tension of collecting chain.

Every 40 hours: Check the hydraulic oil level (oil H V 68)

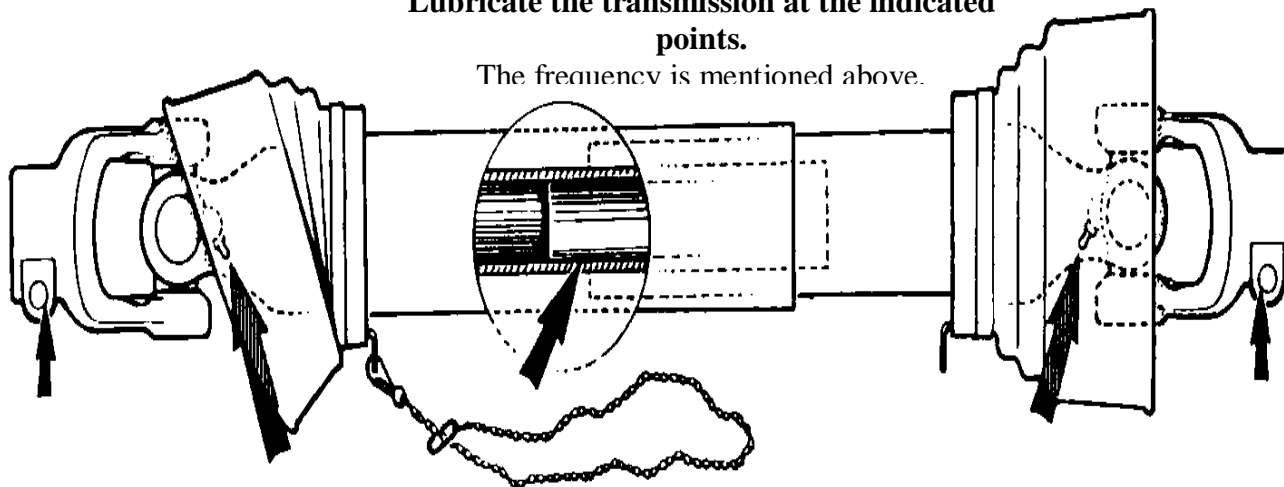
Check the oil level of the multiplier (oil L P 80/90)

Lubricate the articulation of the picking arm (2 greasers)

Every year: Replace the filter cartridge of the hydraulic tank Ref.: 01 126389

Lubricate the transmission at the indicated points.

The frequency is mentioned above.



HYDRAULIC OIL TEMPERATURE AND ITS IMPACT.

The average operating temperature is between 60 and 80° according to atmospheric conditions.

- The rise in temperature after a few hours of operation is normal and can reduce the rotational speed of the saw and the conveyor; it could be corrected by the graduated thumb wheel of the flow divider.
- Units such as the hydraulic pump, the motors and the distributor can seem very hot during operation without undergoing any damage.

STUDDED CHAIN TENSION.

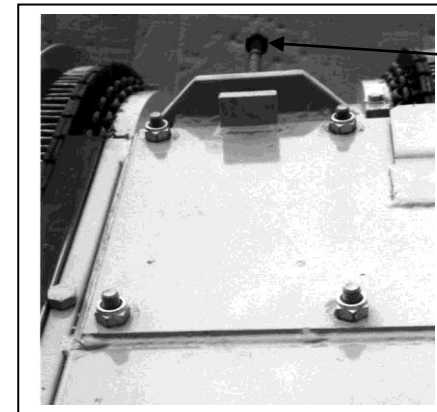
To make sure that the tension is correct, check if the Hemp plants are raised perfectly vertically. It is also the only condition to obtain a perfectly horizontal notch.

- **Tension:**

- * Loosen the 4 nuts located on the plate at the top of the boom.
- * Act on the adjustment screw.
- * Tighten the 4 nuts.
- * At end of travel of the tension screw, proceed to the shortening of the chain by suppression of 1, 2 or 3 plates.

- **Shortening of the chain.**

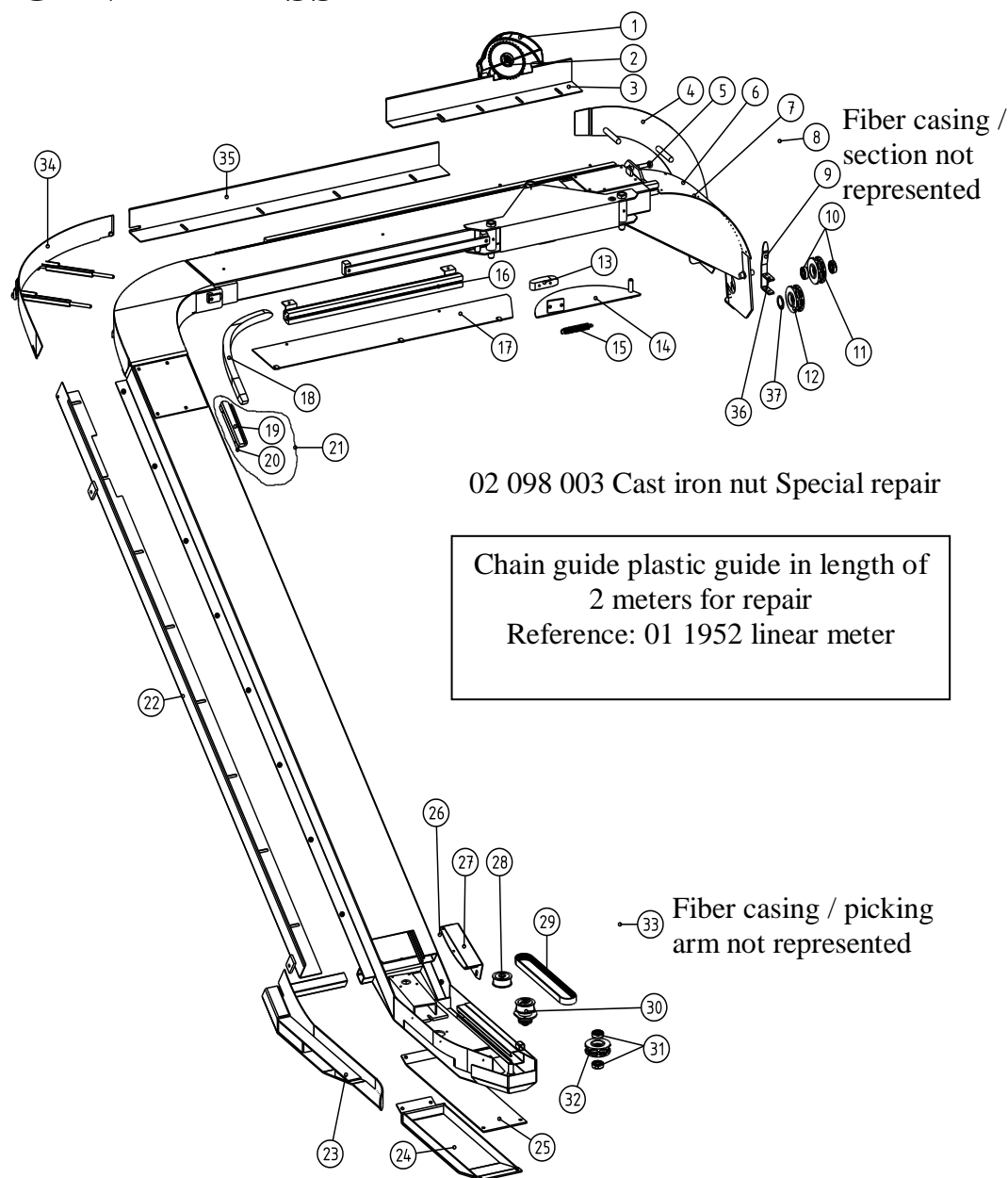
- * Remove the casing of the unloading sector.
- * Locate the connecting link (divided link) and bring it to the unloading area.
- * Loosen the 4 locknuts at the top of the arm and unscrew the tension screw.
- * Release the connecting link, cut 2 links to cancel one plate support and more if necessary, but always by multiple of 2 links and thus of plates.
- * Assemble following the reverse procedure.



**ADJUSTMENT
SCREW**

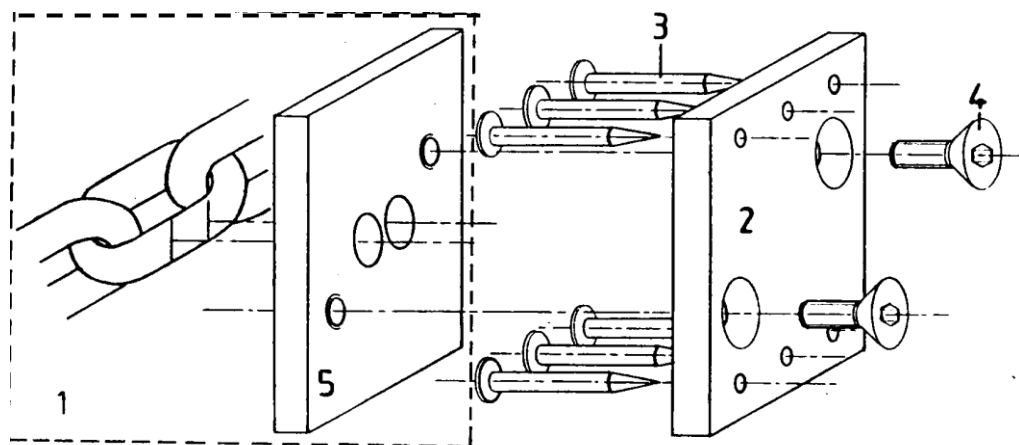
SPARE PARTS

GENERAL ASSEMBLY

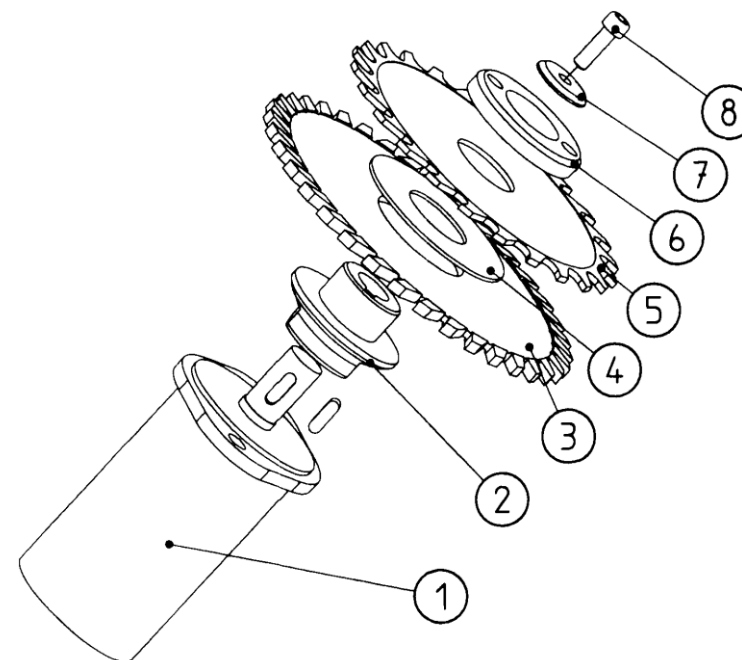


37	02 008 006	Nut / motor set ring	1
35	03 042 103	Articulated guide extension RMTD	1
34	03 075 107	Stand guide/arch link RMTD	1
33	01 066 091	Fiber casing/picking arm RMT	1
32	02 098 034	Cast iron nut chain guide	1
31	01 095 054	Ball bearing 6004 (20x42x12)	2
30	Circular saw bearing See detail page 12		1
29	01 126 360	Synchronous belt 390H100	1
28	01 099 046	Notched pulley/motor saw	1
27	03 003 031	Bear section chain guide/arm RMT	1
26	02 042 093	Flat plastic guide lg 250	1
25	02 126 422	Shoe for skid RMT	1
24	04 135 207	Option raised shoe	1
23	03 075 101	Stand guide/picking arm RMT	1
22	03 042 102	Adjustable lateral guide RMTD	1
21	03 089 025	Skid return chain guide series 03	1
20	02 039 007	Cleat chain guide series 03	1
19	02 042 008	Plastic guide return series 03	1
18	02 003 038	Section chain guide RMTD	1
17	03 027 345	Protection plate extension articulated	1
16	04 109 066	Chain guide interior guide	1
15	01 015 073	Chain tension spring	1
14	03 053 169	Chain adjuster RMTD	1
13	02 089 195	Skid chain guide/adjuster	1
12	02 098 037	Cast iron nut/motor drive chain	1
11	02 098 034	Cast iron nut /unloading section	1
10	01 095 054	Ball bearing 6004 (20x42x12)	2
9	03 126 366	Extractor/ unloading section	1
8	01 066 092	Fiber casing on unloading section	1
7	02 042 095	Flat plastic guide lg 600	1
6	02 042 094	Flat plastic guide lg 880	1
5	03 018 147	Adjuster screw/unloading section	1
4	03 003 033	Stand guide area/unloading	1
3	03 042 006	Notch saw guide series 03	1
2	Notching system See detail page 11		1
1	01 066 001	Fiber casing notching	1
Item	Reference	Description	Nb.

SPARE PARTS CONVEYOR CHAIN NOTCHING SYSTEM



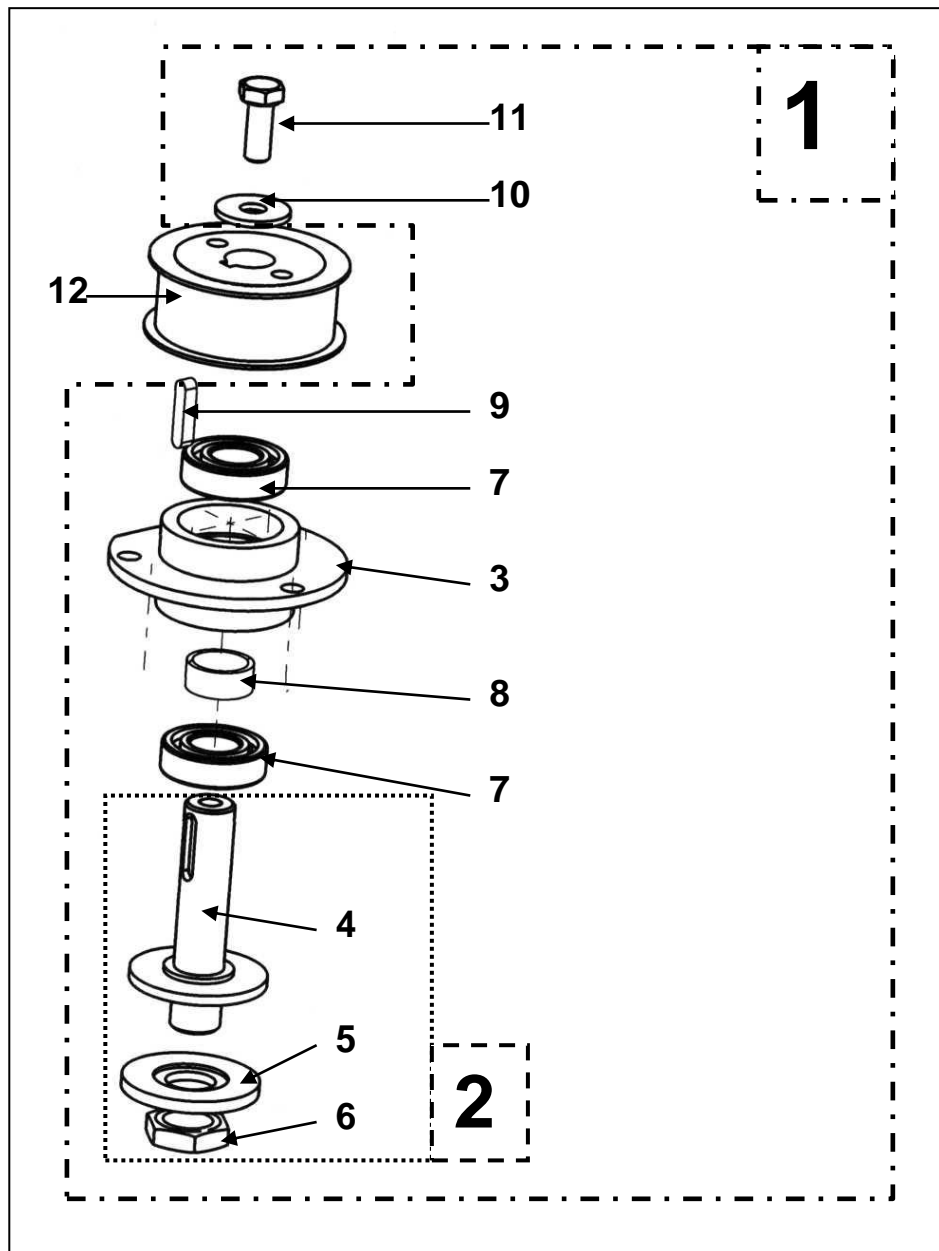
Item	Reference	Description
	04 058 006	Complete conveyor chain RMT D 03
1	03 058 005	Bear conveyor chain RMT D 03
3	01 127 869	Point spit
4	01 127 868	Screw FHC 90 M5x10 cl 10.9
5	01 025 331	Support for point carrying plate
Nr.	01 068 279	Conveyor chain fastener/RMT
Pr.	03 133 037	Assembly plate+point RMT (without screw)



Item	Reference	Description
1	01 126 015	Notching hydraulic motor
2	02 070 001	Notching saw hub
3	01 126 016	Saw Ø 160 – 30 Z 36
4	01 073 007	Notching saw spacer
5	01 126 017	Saw Ø 140 – 30 Z 24
6	02 080 001	Notching saw screw hub
7	02 008 004	Notching saw motor washer
8	01 127 001	Screw H M6x20

SPARE PARTS

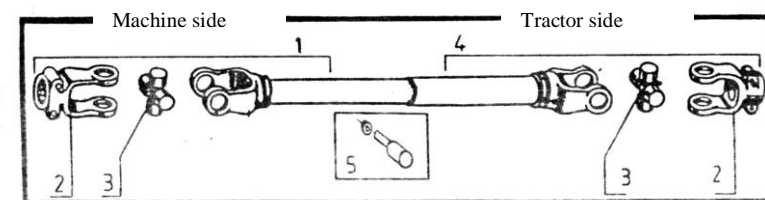
CIRCULAR SAW BEARING



Item	Reference	Description
1	04 109 651	Entire bearing of saw/RMT
2	03 035 521	Entire axle of saw
3	02 101 113	Exposed bearing of saw /RMT
4	02 035 522	Single axle of saw/RMT
5	02 097 219	Flange/axle of saw RMT
6	02 080 090	Screw M20x150 left threaded/axle saw
7	01 095 054	Bearing 6004 2RS1
8	02 020 222	Spacer tube/axle saw
9	01 127 830	Cotter // with round ends 6x6x28
10	01 127 251	Special flat washer 30x10.5x2.5
11	01 127 817	Screw H M 10x25 cl 8.8
12	01 099 047	Notched pulley/ axle saw RMT
nr	01 126 360	Synchronous belt
nr	01 099 046	Notched pulley/ motor saw RMT
nr	01 126 361	Circular saw of harvester

TRANSMISSION

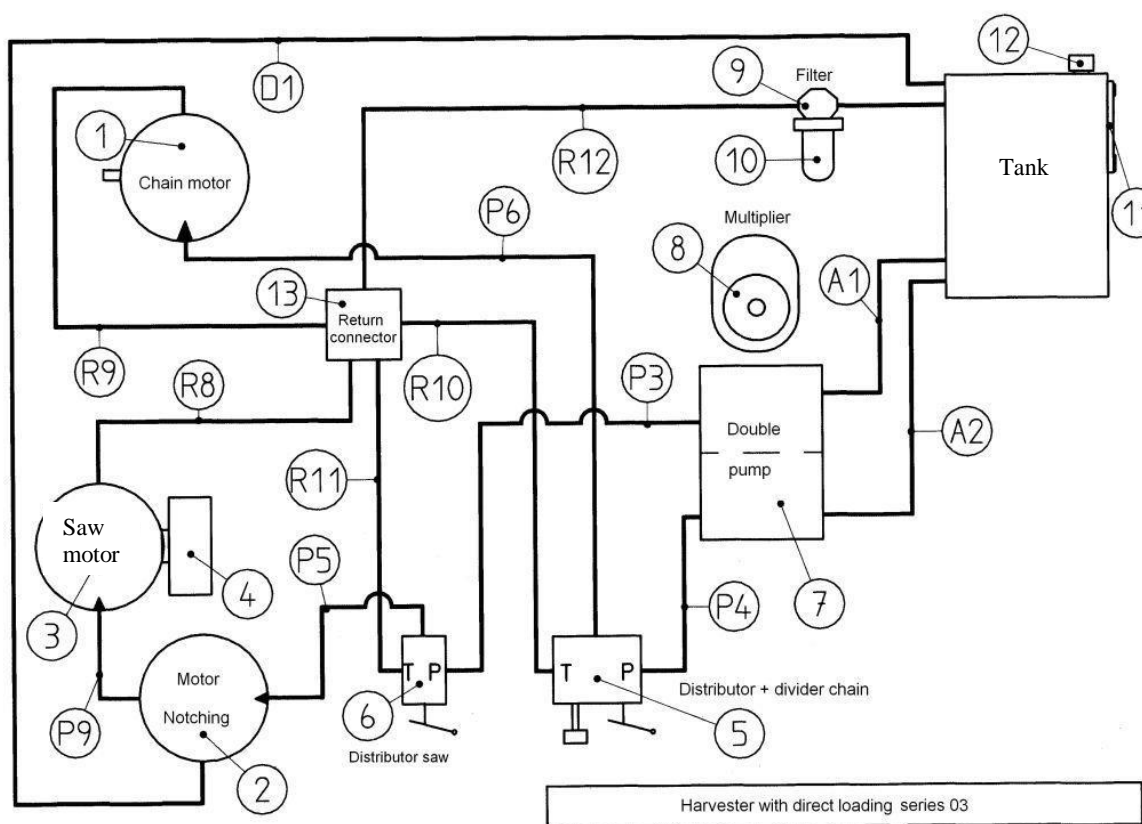
01 109 067 Complete Transmission Bdli 1"3/8 z6



Item	Reference	Description
1	01 126 083	½ male transmission 1"3/8 z6
2	01 084 090	Yoke Bdli 1 "3/8 6C-507 020 351
3	01 064 086	Cross pin Ø23.8Lg 61,3 - 41202
4	01 126 084	½ Female transmission 1"3/8 z6
5	01 016 057	Screw for yoke. 1"3/8 403 000 001

SPARE PARTS

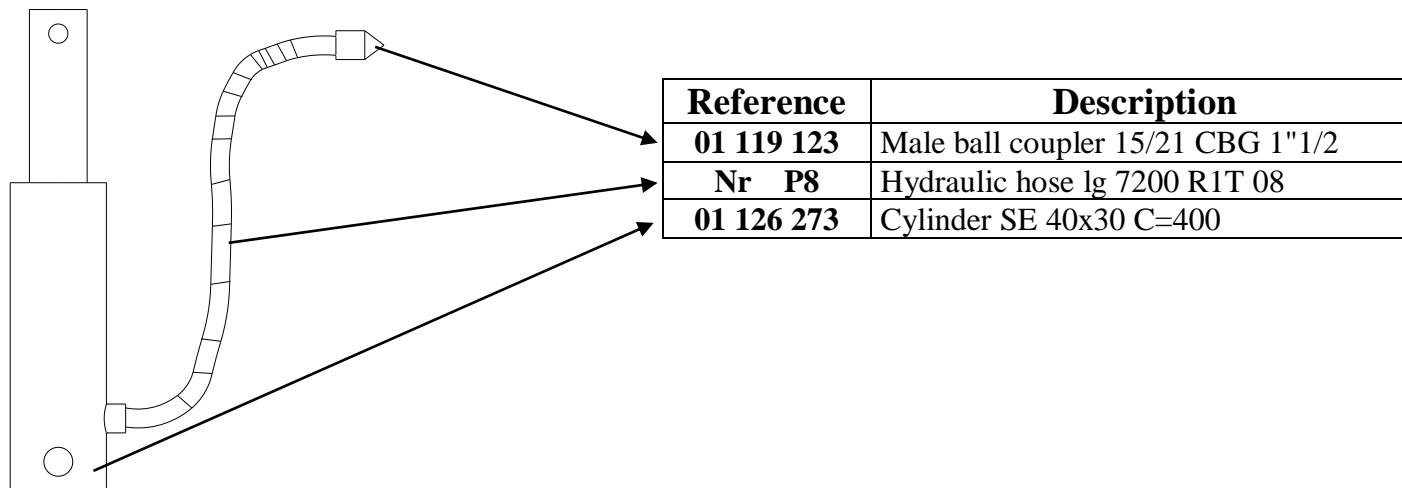
HYDRAULIC CIRCUIT



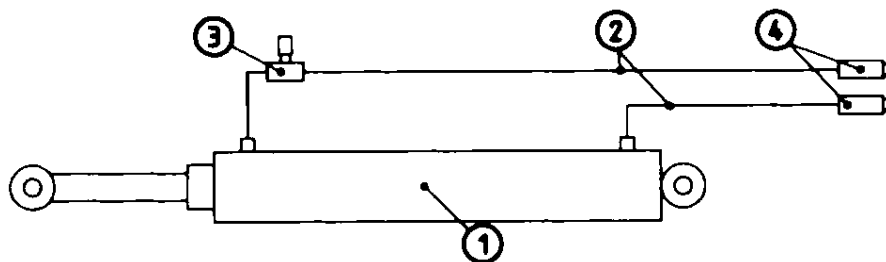
	Item	Reference	Description
HYDRAULIC	A1	nr	Hydraulic hose lg. 350 R4 3/4
	A2	nr	Hydraulic hose lg. 350 R4 3/4
	P3	nr	Hydraulic hose lg. 2000 D2C 1/2
	P4	nr	Hydraulic hose lg. 2000 D2C 1/2
	P5	nr	Hydraulic hose lg. 5800 D2C 1/2
	P6	nr	Hydraulic hose lg. 6480 D2C 1/2
	P9	nr	Hydraulic hose lg. 5800 D2C 1/2
	R8	nr	Hydraulic hose lg. 3100 D2C 1/2
	R9	nr	Hydraulic hose lg. 4820 D2C 1/2
	R10	nr	Hydraulic hose lg. 1700 D2C 1/2
	R11	nr	Hydraulic hose lg. 1700 D2C 1/2
	R12	nr	Hydraulic hose lg. 1070 R4 3/4
	D1	nr	Hydraulic hose lg. 5200 R 1T 3/16
S E	1	01 126 418	Chain hydraulic motor
	2	01 126 015	Notching hydraulic motor
		01 109 041	SAW HYDRAULIC MOTOR + COUNTER BEARING ASSEMBLY
	3	01 126 380	Saw hydraulic motor
	4	01 126 381	Saw counter bearing
	5	01 126 419	Distributor with integrated divider
	6	01 126 384	Distributor on RMT
		01 109 040	PUMP + MULTIPLIER ASSEMBLY
	7	01 126 382	Hydraulic pump RMT
	8	01 126 383	Multiplier RMT
	9	01 126 386	Entire filter return tank
	10	01 126 389	Filter cartridge CA 60/3
		01 126 485	EQUIPPED TANK
	11	01 126 365	Oil level indicator
	12	01 112 162	Tank filler cap
	13	01 126 420	Hydraulic connector
		01 126 362	Hydraulic oil HYDRO HVB 68

SPARE PARTS

ARM CYLINDER



THIRD POINT CYLINDER



Item	Reference	Description
	03 126 359	Entire third point cylinder
1	01 126 368	Third point jack alone
2	01 123 128	Hydraulic hose SAE R 1 T 5/16 lg 1400
3	01 126 369	Hose clamp FT 125 1/2-1/2
4	01 119 123	Male ball coupler 15/21 CBG 1"1/2

MALFUNCTIONS

ANOMALIES	CAUSES	REMEDIAL ACTIONS
The chain is not running	<ul style="list-style-type: none"> • The power take-off of the tractor is not running. • The left-hand side lever (in the direction of advance) is not in drive position. • The thumb wheel under the driving lever is completely screwed. • The chain is not tight enough. 	<ul style="list-style-type: none"> • Check if it is well engaged. • Push the lever forwards (in the direction of advance of the machine) • Gradually unscrew the thumb wheel to obtain the good speed of the conveyor chain. • Check that the nails are not blocked in the sheet-metal works. Tighten the chain (see page 12).
The saw is not running	<ul style="list-style-type: none"> • The right-hand side lever (direction of advance of the machine) is not in drive position. • The blade is not correctly assembled. • Accumulation of dirt, Hemp leaves and grass in the housing of the saw. • The saw is loose at the time of the cut 	<ul style="list-style-type: none"> • Actuate the lever forwards (in the direction of advance of the machine) • Check if it is not blocked in its housing. To lift it up if necessary. • Clean around the saw correctly (for this operation, it is imperative to turn off the engine of the tractor to avoid any risk of accidental running of the saw) • Slightly incline the saw forwards by raising the back of the machine (see page 6)
The Hemp plants do not go properly along the guide	<ul style="list-style-type: none"> • The spacing of the guide is incorrect. • The chain is not tight enough. • The rate of advance of the tractor is not synchronized with that of the chain. • The saw does not cut any more. 	<ul style="list-style-type: none"> • Regulate the guide (see page 5) • Tighten the chain (see page 12) • Readjust speeds (see page 9) • Replace the saw.
The Hemp plants break at the time of notching	<ul style="list-style-type: none"> • The notching depth is too large • The guide is too tight. • The chain advances too quickly and bursts the plants at the time of the cut. 	<ul style="list-style-type: none"> • Regulate notching (see page 6) • Regulate the guide (see page 5) • Regulate the rate of advance of the chain and the tractor (see page 9)
The notching saw engine lacks power	<ul style="list-style-type: none"> • The saws do not cut any more. • The notch depth is too large. • The power take-off speed is not at 540 rpm. 	<ul style="list-style-type: none"> • Replace or sharpen the notching blades. • Reduce the notch depth (see page 6). • Adjust the engine speed of the tractor to obtain 540 rpm with the power take-off.

IMPORTANT

Before actuating the tractor power take-off make sure that the transmission was indeed cut off as stipulated on page 3 of the maintenance booklet. Make sure to renew this operation in the event that another tractor is used.

CAUTION:

The use of the 3rd hydraulic point modifies the length of transmission which one can note in low and high position of raising.

Ensure oneself of the variation in the length of transmission by lengthening and shortening the 3rd hydraulic point.

A transmission too long would involve the bursting of the multiplier and the depression of the hydraulic pump support sheet.

A transmission too short can be uncoupled in rotation and cause material damages and especially accidents.

GREASING OF THE CONVEYOR CHAIN ON MECHANICAL HARVESTERS FOR HEMP

- Withdraw the casing of the unloading section
- Run the chain (idle speed)
- Spray on the chain and the back of the supports of point holding plates. The most accessible place is between the chain's two pulleys with driving faces, at the upper part of the arm.

The chain will be well lubricated when it makes 2 turns at least and that an oil film will be uniformly widespread on all the surface.

It is necessary to lubricate the chain after any prolonged stop of operation (inter season, storage) and 1 to 2 times per week during harvest.

RECOMMENDED LUBRICANT:

Dry lubricant aerosol containing micronized molybdenum
Example: **SEC MOLTRI** OF RDI

WARRANTY

The **HEMP HARVESTER** is guaranteed against any fault in material and design defect.

The warranty period is **12 months**: This term starts at the delivery date of the equipment to the customer, provided that the warranty bond attached is returned to KIRPY within **8 days**, after delivery of the equipment.

THE FOLLOWING ARE NOT INCLUDED IN THE WARRANTY:

- The parts which are not manufactured by the distributed brand and, in particular, devices, apparatuses and accessories carrying the brand of their supplier. The responsibility for their products falling upon the latter.
- Various deteriorations or damages resulting from a misuse (in particular, by poor care or maintenance, or defect of use), from an accident, an abnormal or abusive use or due to the normal wear and tear.
- Any transformation, modification, repair, dismantling made to the equipment even only partly, not performed by **KIRPY** workshops, its dealer or the agents of this dealer.

The warranty is limited to the pure and simple exchange of the part found defective by us, or to its repairing at our convenience, the parts being delivered to our workshops without having to take part, in any way, at the expenses of labor caused by disassembling and reassembling. Of express agreement, the warranty is strictly limited to the replacement or the repairing of the parts found defective, according to the methods above with the formal exclusion of all damages for any cause.



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