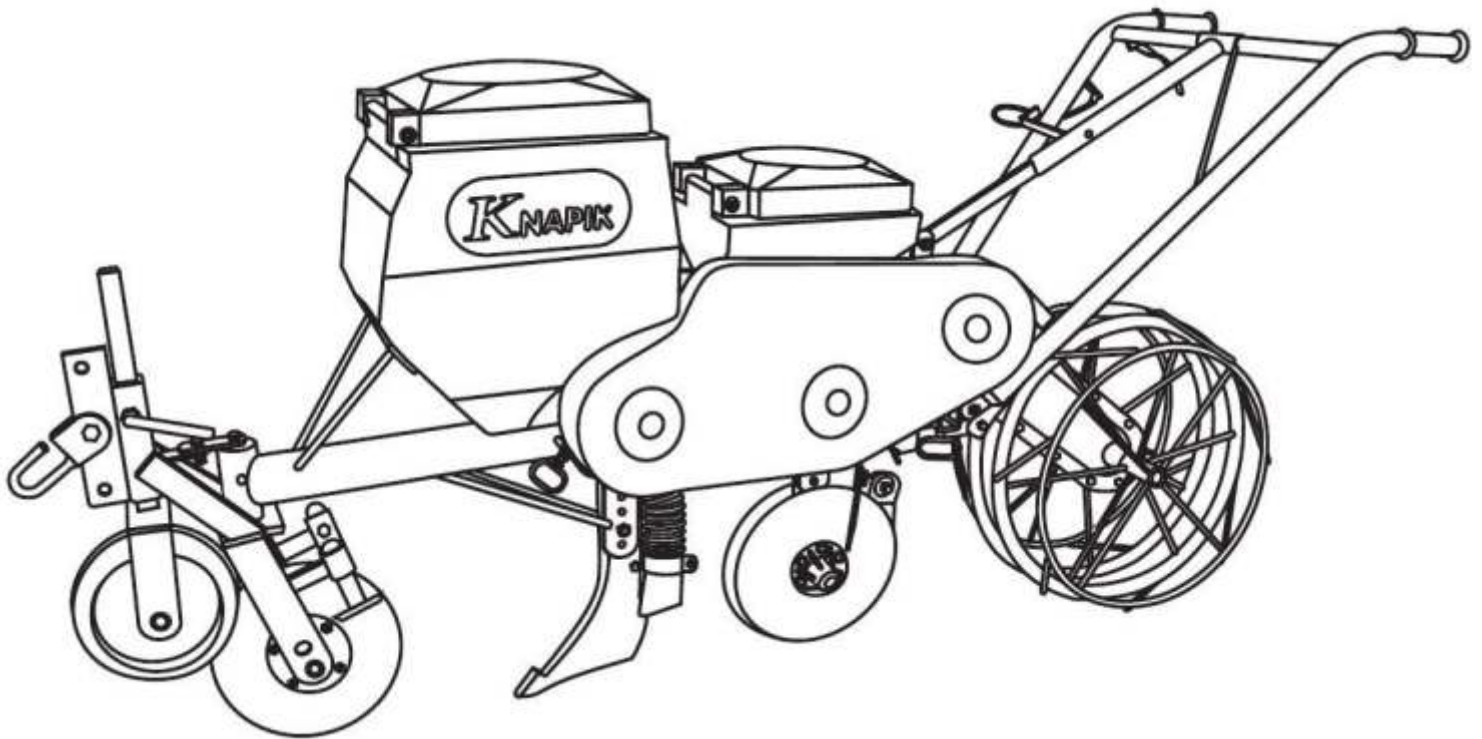


KNAPIK®

Animal-Drawn Planter Operating Instructions



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1. OPERATOR WARNINGS



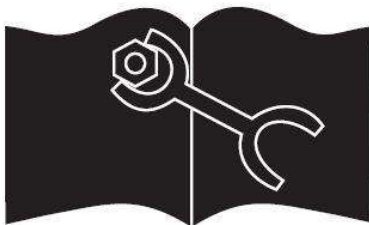
Avoid the improper
disposal of waste in the environment,
the planet thank to you

SAFETY AT WORK



Keep in mind that SAFETY requires CONTINUING WARNING,
OBSERVATION AND CAUTION during storage and handling, transport
and maintenance of the planter.

PLEASE, READ THE INSTRUCTIONS MANUAL



**Before mounting, adjusting or maintenance
procedures, please, consult the instructions
manual.**

2. PLANTER PARTS



- 1 - Clamp for the engagement to the chain - with height adjustment.
- 2 - Support wheel. It holds the straw to the disc make the cut (provides quality to the cutting of straw).
- 3 - Cutting disc with scraper.
- 4 - Frame.
- 5 - Furrow opener to incorporate the fertilizer.
- 6 - Double disc furrow opener with offset discs - with internal and external scrapers.
- 7 - Seeding depth control bar.
- 8 - Carrier wheels.
- 9 - Closing groove and ground wheels.
- 10 - Armored unit.
- 11 - Handle with height adjustment.
- 12 - Chain guard.
- 13 - Seed hopper.
- 14 - Fertilizer hopper – roto-molded polyethylene and internal parts in nylon and stainless steel.
- 15 - Linear meter quantity fertilizer control bar - located at fertilizer hopper.

3. PLANTER ASSEMBLE

Packaging contents:



Frame with the seed and fertilizer hopper mounted



Two carrier wheels



Front unit and wheel



Double disc furrow opener with offset discs



Furrow opener



Armored unit



Handle



Ground Wheels



Chain guard



Support foot

3.1. CARRIER WHEELS INSTALLATION



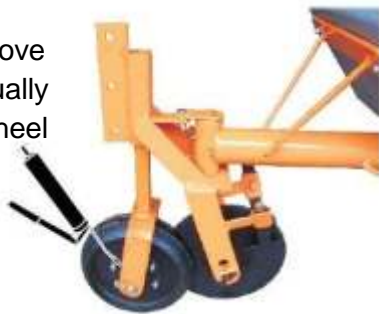
3.2. PLANTER FRONT UNIT ASSEMBLY



Putting the pivot of the front unit on the frame

Lubricate regularly.

To lubricate, remove the pin and manually lubricate the wheel cube



Fit the wheel axle in the front unit.



Tighten the pivot lock pin

Lock Pin

3.3. TIGHTENING THE ENGAGEMENT CLAMP



The starting default is through the central hole.

The adjustment through bottom hole decreases the cutting capacity of the straw and increases the contact of the ground wheel on the soil.

The adjustment through upper hole increases the cutting capacity of the straw and reduces the contact of the ground wheel on the soil.

3.3.1. Adjusting the Front Unit



When the planter starts the planting operations the wheels must be lifted up to the maximum. There is no adjusting for these wheels, so when it run the planting operation, should be keep maximum lifted up the wheels and when the wheels are down, it has the function to assist in transport the machine

For the planting, remove the pin that locks the front unit, it must turn to right and left, it facilitating the maneuvers to the end of the rows. Firstly maneuvering the animal to rotate the front unit, then the operator must get down the handle and align the planter behind the animal.

3.4. FITTING THE GROUND WHEELS IN THE ARMORED UNIT

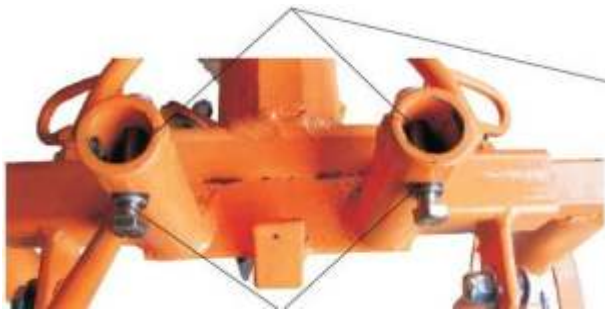


Mount the wheels on the axle of the armored unit. ATTENTION to the direction of the ground wheel treads after putting the screw with the bushing.



ATTENTION TO THE DIRECTION OF THE GROUND WHEEL TREADS

3.5. FITTING THE ARMORED UNIT WITH GROUND WHEELS IN THE MAIN FRAME



Frame fitting tube

WARNING! Do not forget to put the metal bushing



Fit the armored unit bearing housing in the tubes



Tighten the armored unit bearing housing in the tubes

3.5.1. Fitting the Adjustment Bar in the Support Guide



The adjustment bar regulates the seeding depth in the soil.

Starting adjustment: The R-clip is located approximately the middle of the adjustment bar.

NOTE: The seed depth depends of the soil resistance, for this reason check the groove depth where the seeds are deposited.

3.6. HANDLE ASSEMBLY



The handle is bolted to the planter frame at three points.



1. To mount the handle is necessary to remove the chain guard.
2. Remove the bar from the handle



4. Attach the bushing into the hole of the bar.
5. Fit the bar back again in the handle guide.

3. Screw the bar in the third point.



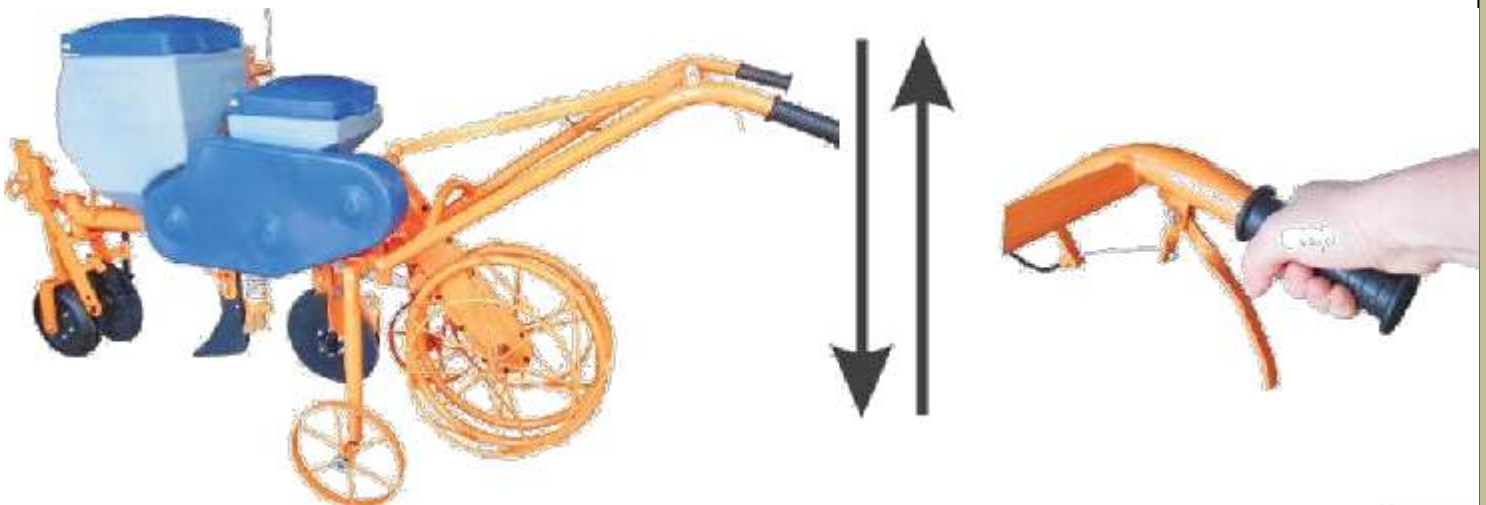
6. Attach the metal bushing



7. Fit the screws attaching the handle into frame

3.6.1. Handle Height Adjustment

The handle has ergonomic adjustment for the height. It facilitates the machine operation as the maneuvering. The handle has a quick coupling which is actuated by the operator without needing to stop the machine operating. When wants to change the handle height, is need to activate the lever and drop down or lift up to desired height, and the handle will be locked.



4. FERTILIZER DISTRIBUTION



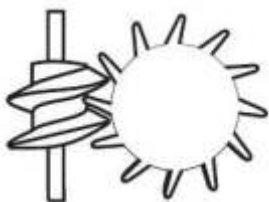
Hopper capacity around 40 liters.

Made of non-corrosive material: roto-molded plastic, injection molded parts of plastic and nylon and metal parts in stainless steel.

4.1. FERTILIZER AMOUNT ADJUSTING

It is possible to adjust 10 to 40 grams per meter of fertilizer, but it is important to consider some variables that may influence the amount of fertilizer like fertilizer moisture and density.

The adjustment can be made by the bar that opens and closes the fertilizer injector. It is also possible make the switch the sprockets to change the amount of fertilizer.



The mechanism of fertilizer distribution is a self-cleaning auger.



5. FURROW OPENER



To incorporate the fertilizer on soil, the furrow opener has a flexible tube with rigid end on PVC (non-corrosive material).

Depth Control: In a normal course of tillage, the furrow opener should be mounted according as shown in the picture at side. Attention to which the hole the furrow opener has been fixed

NOTE: As the penetration adjustment be deeper of furrow opener into the soil, the heavier the operating the machine.

6. SEEDS DISTRIBUTION

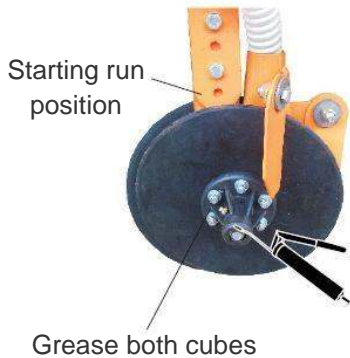


Seeds hopper capacity around 10 liters.

Seeds distribution by horizontal seed plate - grain by grain universal standard.

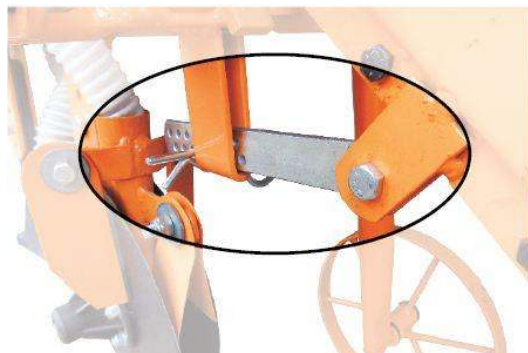
NOTE: In underside of seed hopper are located three lubrication points.

7. DOUBLE DISC FURROW OPENER WITH OFFSET DISCS



To incorporate the seeds into the soil, the planter use double disc furrow opener with offset discs.

Depth Control: In a normal course of direct seeding it recommend the double disc should be mounted at first and third hole in the adjustment bar for the starting of work.

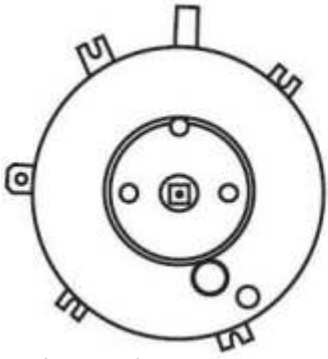


The adjustment bar controls the depth of planting the seed in the soil.

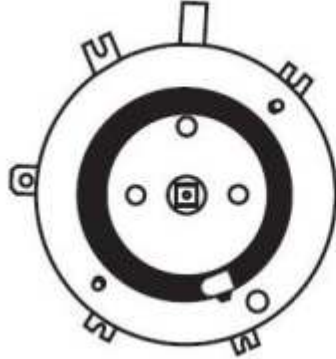
Starting adjustment: The R-clip is located approximately the middle of the adjustment bar.

NOTE: The seed depth depends of the soil resistance, for this reason check the groove depth where the seeds are deposited.

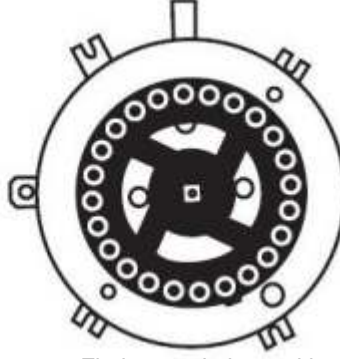
8. SEED HOPPER STEPS OF ASSEMBLY



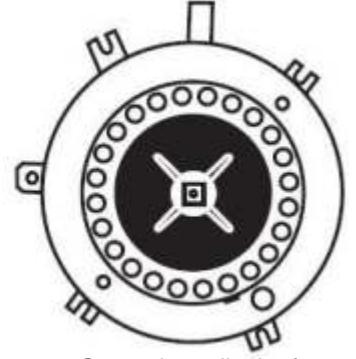
1 - Loosen the transmission chain.



2 - Put the wedge of plate (ring). CAUTION: Put the flat side facing up.



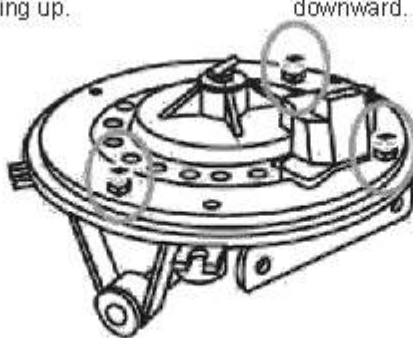
3 - Fit the seed plate, with the protruding portion downward.



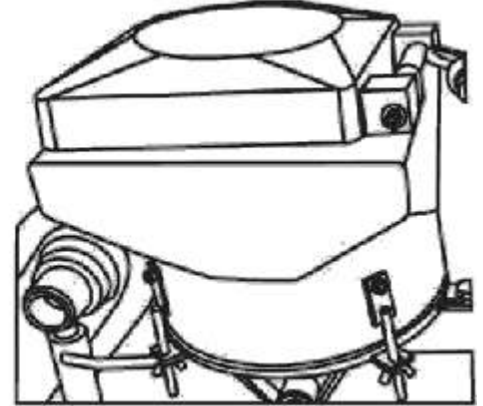
4 - Screw the pull tab of the plate.



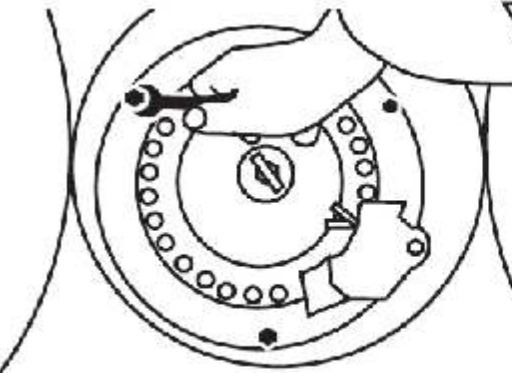
5 - Attach the aluminum ring with the tooth rolls box. Attention to the use of the roller in accordance with plate.



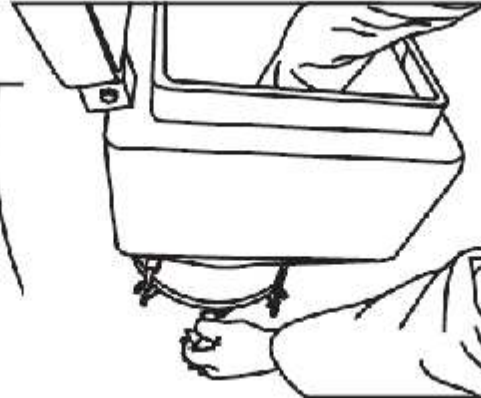
6 - Loosen the screws in accordance with the indicated in the drawing, but not remove it completely.



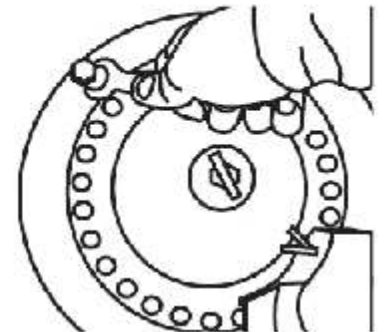
7 - Put the plastic hopper. Keep in mind that the attaching the hopper can push down the ring over the plate and it can lock it.



8 - To unlock the seeding plate, use a 9/16-inch wrench, and adjusting the screws evenly without leaving a part rises over the other until the plate spins freely with a minimum of clearance as possible.

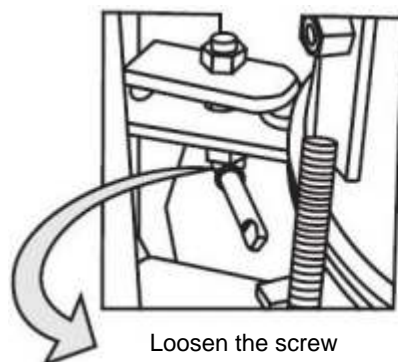


9 - Rotate by hand the seed hopper sprocket. The seed plate should spin freely.

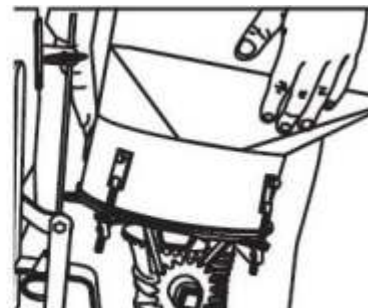


10 - To lock the adjustment, tighten it the nuts on the adjusting screw. Assemble the chain.

8.1. REMOVING THE ENTIRE SEED HOPPER



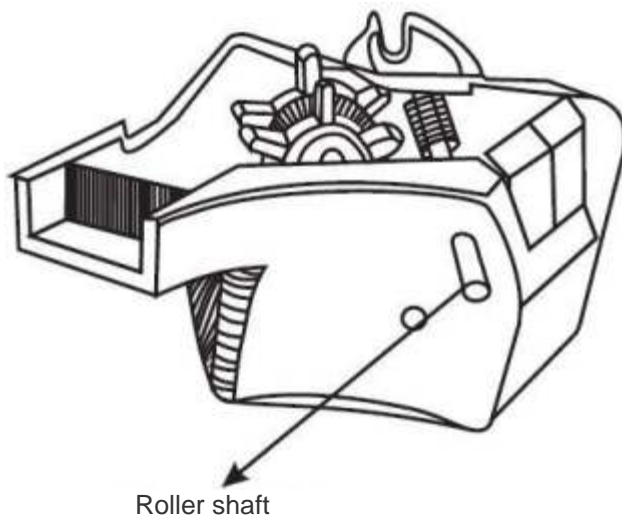
Loosen the screw



Remove the entire hopper

WARNING: It is recommended always using graphite powder mixed in seeds.

8.2. ROLLER BOX



Roller for corn seed to 28-holes plate.

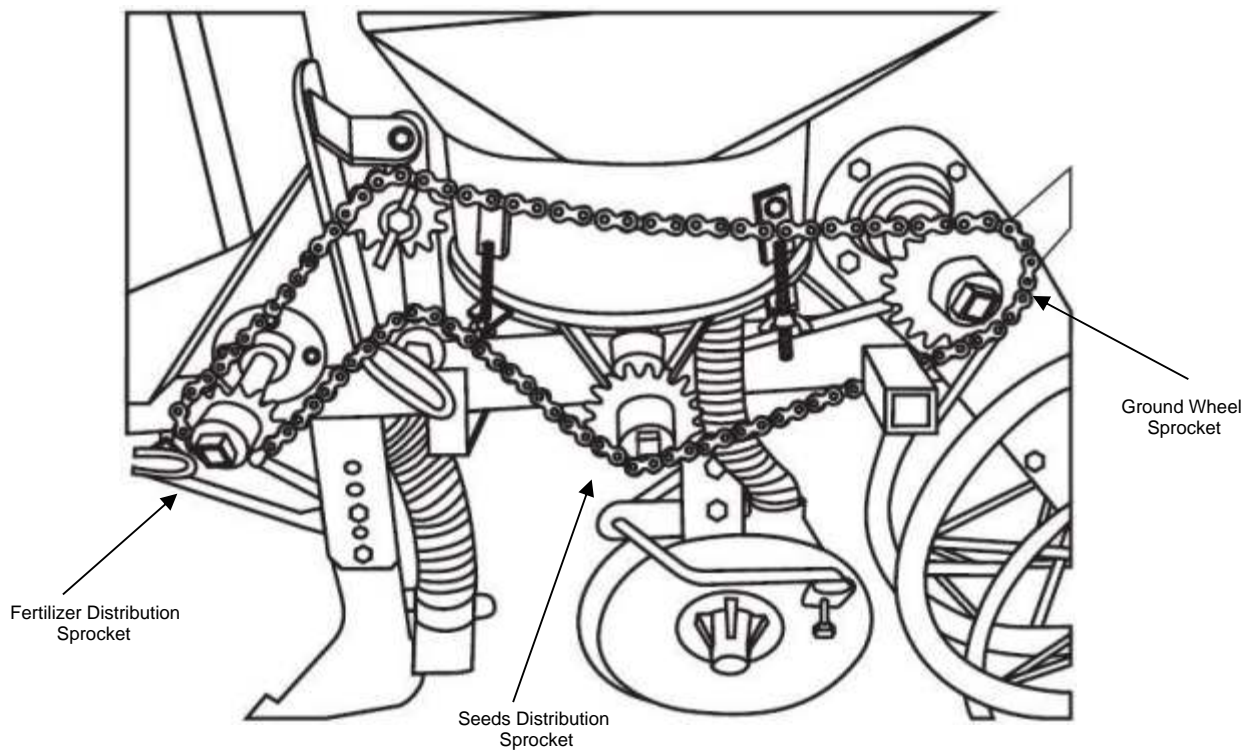


Roller for soybean seed to 62-holes plate.



NOTE: to distribute the seeds is very important choose the correct roller for each type of plate.

9. ADJUSTMENT OF CHAINS AND SPROCKET



- ASA 40 Roller Chain.
- 15, 18, 21, 22, 24, and 33 teeth sprocket.
- Quick coupling system (no need wrench to make the change).

9.1. TABLE FOR CONCEPTS OF ADJUSTING OF SEEDS QUANTITY GRAINS PER METER

Corn Seeds 28-Holes Plate	Seeds Distribution Sprocket	Ground Wheel Sprocket	Bean Seeds 68-Holes Plate	Seeds Distribution Sprocket	Ground Wheel Sprocket	Soybean Seeds 86-Holes Plate	Seeds Distribution Sprocket	Ground Wheel Sprocket
3,3	26	15	11	26	21	10	26	15
4	26	18	12	24	21	11	24	15
4,5	26	22	13	23	22	12	22	15
5	24	22	14	24	24	13	24	18
5,5	24	24	15	24	26	14	22	18
6	22	24	16	23	26	15	24	21
6,5	22	26	17	21	26	16	26	24

After making the change the sprocket it is needed to check the amount of seed and fertilizer that is been injected. To checking keep in mind that each ground wheel complete revolution it is equal to 1.5 meters.



10. TRANSPORTATION OF MACHINE

For the machine's carriage over short distances:

- Attach the side wheels that assist the transportation.
- Make to get down as much as possible the front unit wheels.
- Lock the front unit with the pin.



Front Unit Wheels



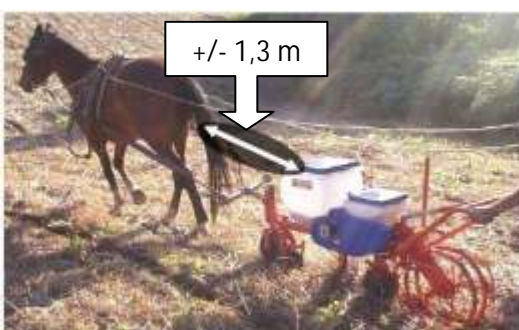
11. STARTING THE PLANTING



Support foot (which makes filling easier the hoppers)

- Adjust the seeds horizontal plate according to the seed size and the amount of seeds distributed per linear meter.
- Adjust the amount of fertilizer per linear meter.
- Remove the transport wheels.
- Maximum lift the front unit wheel and removing the lock pin to rotate the front unit.
- Instead of a transport wheel should screw the support foot. (Keep the machine in an upright position, which makes filling easier the hoppers).

12. DISTANCE BETWEEN THE ANIMAL AND THE PLANTER



To the planter front unit not to be lifted, it is necessary a 1.3-meters of distance between the animal and the machine.

For resistant or compacted soils, maintain a greater distance between the animal and machine.

For soft or less resistant, maintaining a smaller distance between the animal and machine.

13. LUBRICATING NIPPLES POINTS



TO LUBRICATE MACHINE (GREASING & OILING) IN EVERY 10 WORKING HOURS	
Fertilizer Hopper	2 Lubrication points
Seed Hopper	3 Lubrication points (in underside of seed hopper)
Double Disc	2 Lubrication points
Armored Unit	1 Lubrication points
Armored Unit Bearing Housing	2 Lubrication points (oil drip)
Cutting Disc	If necessary, remove the pin and manually lubricate the cube
Support Wheel	If necessary, remove the pin and manually lubricate the cube

14. FINAL CONSIDERATIONS

In this manual, some images and drawings are not appearing the safety devices (how to cover, guards, etc.) to be able to show clearly and give more detailed instructions. But do not forget, never operate the machine without these devices.

Knapik Mecânica Industry Ltd reserves the right to improve and/or modify the technical characteristics of its products without notice and without obligation to extend the improvements and modifications to the machines already sold.



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