

## ***IDENTIFICATION***

Owner: .....

.....

Adrees .....

.....

City .....

Machine Model .....

Serial Number .....

Manufacturing Year .....

Invoice N° .....

Date ..... / ..... / .....

Authorized Dealer

┌

┐

└

┘

## WARRANTY CERTIFICATE

**1. JUSTINO DE MORAIS, IRMÃOS S/A – JUMIL**, guarantees the agricultural equipments and its respective parts, of its manufacturing, hereinafter simply denominated PRODUCT, are free of workmanship defects, as in its construction as in the material quality.

**2.** The questions which are related to the Warranty Grant are ruled as per the following principles:

**2.1.** The constant warranty of this certificate will be valid:

a) By the 6 (six) months time counting from the date of the effective PRODUCT delivery to the agriculturist consumer;

b) Only for the PRODUCT that will be acquired, new, by the agriculturist consumer, directly from the Dealer or JUMIL'S Dealer, reserved and settled in the item 2.3.

**2.2.** Apart from the hypothesis in the sub-item, the Warranty to the consumer will be serviced by **JUMIL**'s dealer.

**2.3.** If the PRODUCT is sold to the farmer by a dealer who is not **JUMIL**'s, the right of Warranty will remain, but in this case, it must be made directly from **JUMIL**, in the terms of this Certificate.

**2.4.** The Warranty will not be granted if any damage to the PRODUCT or in its performance is caused by:

a) Negligence, imprudence or lack of operator's knowledge.

b) Non-observance of instructions and recommendations of use and maintenance cares, stated in this Instructions and Operator's Manual.

**2.5.** Likewise, the warranty shall not be granted if the PRODUCTC undergoes suffer any transformation or modification after the sale, or if the purpose that destinies the product is altered.

**2.6.** The replaced or changed PRODUCT under this Warranty will be **JUMIL**'s Property, it must be returned to the customer after legal applicable requirements are fulfilled.

**2.7.** In the accomplishment of its constant evolution, **JUMIL** makes, permanently, to its products the improvements or modification, without having the obligation of making the same ones in products or models previously sold.

**2.8-** JUMIL will not be responsible by the indemnity of any harvest damage, due to inappropriate adjustment of Product devices, relative to the fertilizer or seed distribution

***Congratulations***, you have just purchased an equipment which is manufactured with the most modern process in technology and efficiency on the market, it is guaranteed by the well-known **JUMIL** Trade Mark.

This manual has the aim of instructing you in the correct use so that you can get the best performance and advantages the equipment has. For this reason, we recommend you to proceed with your attentive reading before working with the equipment.

***Always keep it in a safe place in order to be easily checked whenever necessary.***

**JUMIL** and its dealer network will always be at your service for information and technical explanations what is may be necessary for your product.

**Phone: ++16 3660-1023**

**Fax: ++16 3660-1112**

**[www.jumil.com.br](http://www.jumil.com.br)**

## ÍNDEX

1 -INTRODUCTION .....	05
2 -SAFETY STANDARDS .....	07
3 -TECHNICAL SPECIFICATIONS .....	09
4 -OPTION .....	13
5 -EQUIPMENT COMPOSITION .....	13
6 -SOIL PREPARATION .....	14
6.1 -TIRE CARE .....	14
6.2 -HITCHING TO THE TRACTOR .....	15
6.3 -HOW TO ADJUST THE MACHINE TO THE TRACTOR .....	17
6.3.1 -TRANSMISSION SHAFT HITCH .....	19
6.4 -MACHINE TRANSPORTATION .....	20
6.5 -TRANSMISSION BELTS ADJUSTMENT .....	21
6.6 -ADJUSTMENT OF THE MACHINE FOR HARVESTING .....	22
6.7 -OVERFEEDING .....	24
7 -MAINTENANCE .....	24
7.1 -CLEANING .....	24
7.2 -LUBRICATION .....	25
7.2.1 - LUBRICATION OBJECTIVES .....	25
7.2.2 -LUBRICATION SYMBOLS .....	25
7.2.3 -LUBRICANTS CHART .....	26
7.2.4 -LUBRICATION POINTS .....	27
7.2.5 -JM 350G LUBRICATION POINTS .....	29
PARTS CATALOG .....	31

## **1 – INTRODUCTION**

**JM 350** Maize Harvester is suitable for harvesting, trashing, shelling, cleaning and bagging maize from 4 to 6 hectare at 10 hours working-day. It is extremely efficient, hitched to medium sized-tractor with hydraulic lift with 60 Hp power and a 540rpm Power Takeoff.

**JM 350 G** Maize Harvester has the same features of **JM 350**, this one has a grain container trailer with a special unload device and with an easy driving and high efficiency.

High performance as a bagging or grain in bulk.

Harvesting spout with an adjustable height, which collects easily the entire row.

The rollers harvest the maize stalks and separate the cobs and they carry them to the auger which transports to trasher the fingers to trash, to shell and separate grains. The sieve drum separates the shelled grains and directs them to the conducting auger and to the bagging spout.

Adjustable air vents for cleaning the maize with a greater precision.

The **JM 350** Maize Harvester are semi-trailed and with the tractor, they complete an unique set. Maneuvers are made in a short turning radius and increasing the work production.

## **ATTENTION**

The JM 350 Maize Harvester are semi-trailed and with the tractor, they complete an unique set.

-The tractor must be in perfect maintenance, use and functioning conditions according to its manufacturer's instructions and with preference to the ones supplied with dual clutch.

-The tractor driver must be careful and practical in the knowledge of his work in relation to the equipment, crop and function to be carried out.

-The crop must be suitable for a mechanized harvest, give preference to the ones planted in-line in which a greater performance can be obtained.

-To keep in mind all the procedure of this operator's manual and additional details as well, in addition to the technical delivery of the machine by the dealer's technician.

-Do not allow the presence of auxiliary workers or people on the machine, tractor and trailers, when the whole set is in operation.

## **2 - SAFETY STANDARDS**

When **JUMIL** manufactures its Agricultural Machines and Implements has the main objective to help the Man to develop a better LIVING STANDARD. However, in the use of these machines some cares must be RESPECTED:

**DO NOT DESTROY THE UNIVERSAL BIOLOGICAL EQUILIBRIUM WITH INCORRECT AGRICULTURAL WORKS.**

**NOR ALLOW THE MACHINE TO DESTROY IT. OBSERVE STRICTLY THE SAFETY STANDARDS. BE ATTENTIVE !**

1) Always use the appropriate stairs and rails to get on or off the tractor.

2) When starting the motor, be correctly sat on tractor operator's seat and **ABSOLUTLY AWARE** of the complete knowledge of the use of tractor and equipment. Always use the tractor neutral gear, switch off the power takeoff and put the hydraulic command in a neutral position.

3) Do not use the tractor in closed rooms as the smoke from the exhaust pipes are toxic gases.

4) When maneuvering the tractor to be hitched to machine or implements, make sure there is enough room and there is nobody around, make the maneuvers in **LOW GEAR** and be prepared to brake it in an emergency.

5) When using equipments **DRIVEN BY THE POWER TAKEOFF** (to hitch, to unhitch or to adjust) **STOP THE POWER TAKEOFF, STOP THE MOTOR AND REMOVE THE KEY FROM THE IGNITION. BE ATTENTIVE !**

6) When using loose clothes, always take care, do not get closer of the moving parts, your clothes can touch them and cause accidents.

7) Do not make any adjustment when the machine is being operated.

8) When working with implements or machines. **IT IS STRICTLY FORBIDDEN THE TRANSPORT OF ANY OTHER PERSON BEYOND THE OPERATOR, AS ON THE TRACTOR AS ON THE IMPLEMENT**, in case there is a seat or appropriate platform for this finality.

9) When working in steep areas, work with a total attention, always keep the necessary stability, in case of a lack of equilibrium, reduce the acceleration and keep the equipment on the soil then turn the tractor wheels to a descendant position.

10) On down the hills, always keep the tractor in geared position, the same you would us to go up.

11) When transporting the machine hitched to the tractor or turning it at the crop corners, we recommend you to take care, by reducing the speed to prevent force on the toolbar or drawbar.

12) Unless in specific occasion, the brake pedals must be connected on another (not independently).

13) If after hitching the implement to the hydraulic three points lift, and you realize its front is too light and it can go up, add necessary weights on its front.

14) When leaving the tractor, put the gear in neutral position, lower the implements which are raised, put the hydraulic command system in a neutral position and action on the stop brake.

15) When the tractor is not used for a long period, besides the previous procedures, stop the tractor motor and use the first gear if you are on a steep road and rear gear if you are going down the hill.

16) ALWAYS FOLLOW CAREFULLY THE SAFETY STANDARDS MADE BY THE TRACTOR'S MANUFACTURER.

17) A MAXIMUM CARE WHEN USING SEEDS WITH CHEMICAL TREATMENT, YOU MAY ASK FOR AN AGRONOMIST ASSISTANCE. DO NOT MANIPULATE CHEMICAL TREATED SEED WITH BARED-HANDS.

17.1) ALWAYS WASH YOUR HANDS AND BODY EXPOSED PARTS WITH A LOT OF WATER AND SOAP, AT THE END OF EVERY WORK SHIFT, MAINLY BEFORE EATING, DRINKING OPR SMOKING.

17.2) Do not throw rest of treated seeds and/or pesticide next to drinkable water well, stream, river and lakes.

17.3) Do not re-use empty container and flasks.

17.4) Always keep the genuine package and always closed and in a dry, air place and of a difficult access to children, irresponsible people and animals.

17.5) Avoid contact with the skin.

17.6) Before using pesticides, READ THE LABEL AND FOLLOW INSTRUCTIONS.

18) when driving the machine on roads, observe the following additional instructions:

a) if the machine is equipped with row markers, the row marker arms must be raise and held with their corresponding disc to inside position.

b) The equipments with an inferior or over 3m width can be transported on roads since they have suitable signs.

c) The equipments which cover the tractor rear signing lights must have alternative read signal light.

## **ATTENTION**

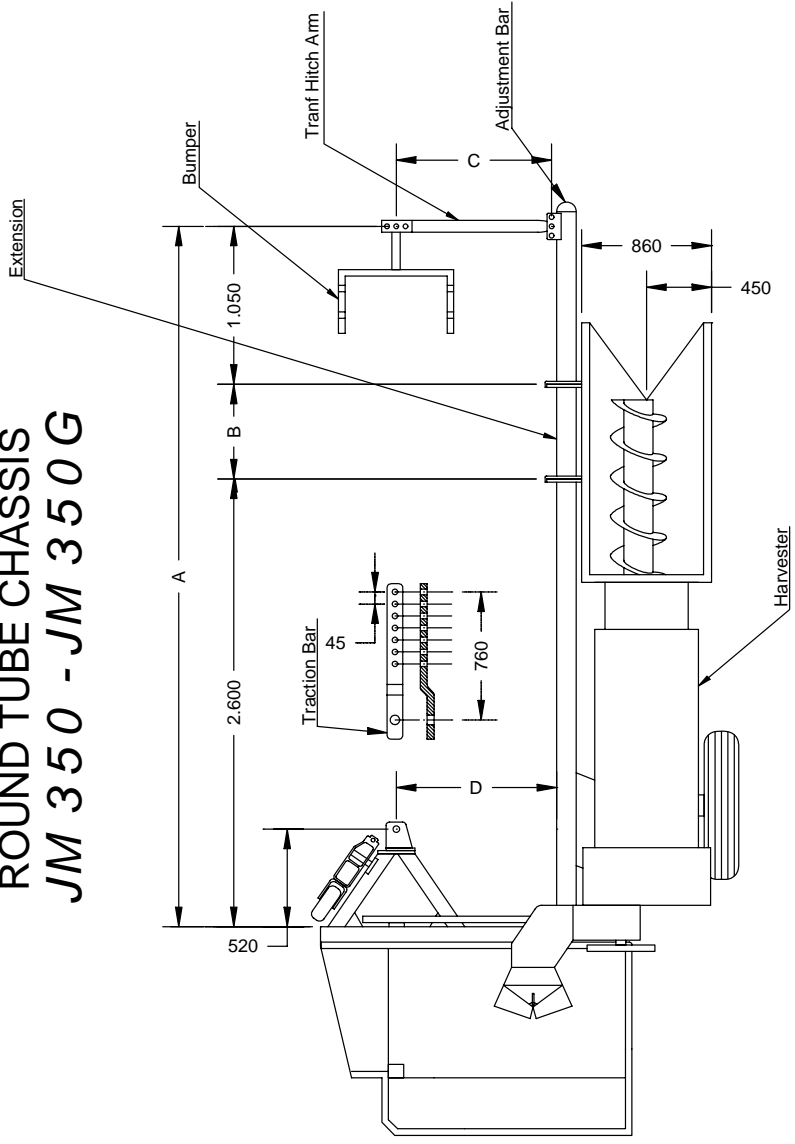
**When receiving your JUMIL equipment, check attentively its components which are delivered with the equipment and read carefully the warranty certificate in the first page of instruction manual.**



### 3 - TECHNICAL SPECIFICATIONS

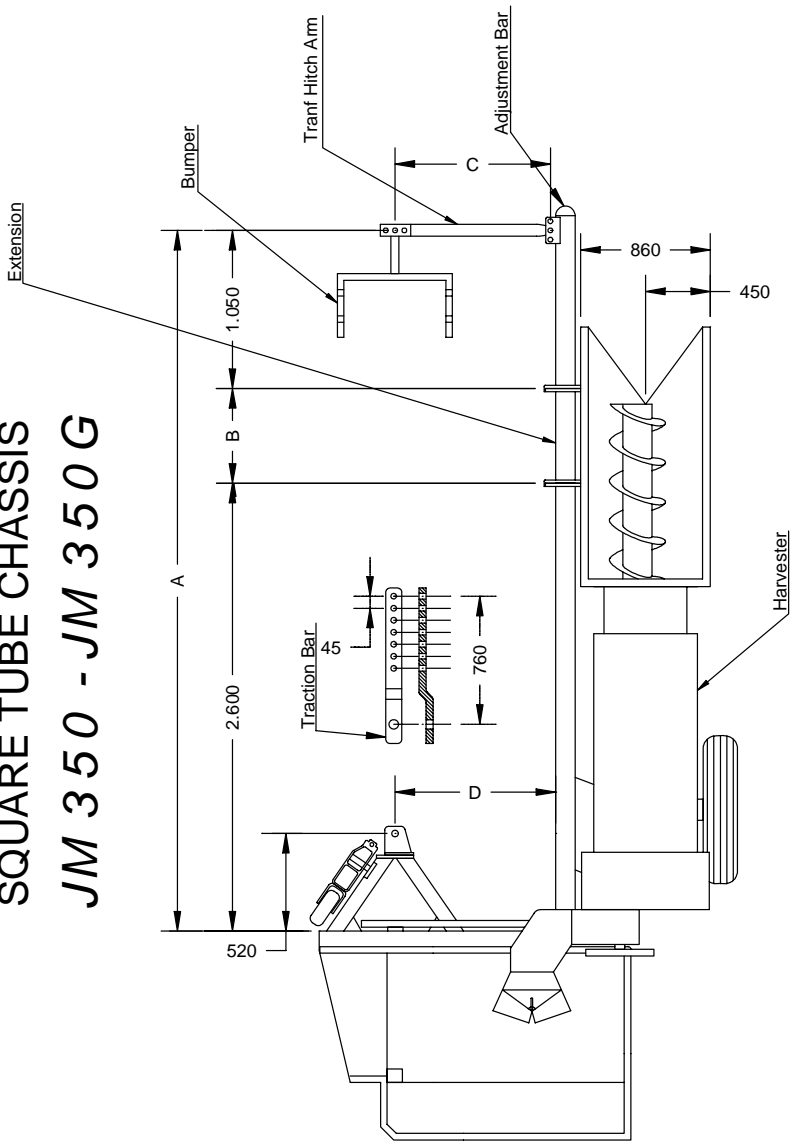
Models	JM 350	JM350G
Production (NORMAL CONDITIONS)	1.200 to 1.800 Kg/h	
Working Speed (NORMAL CONDITIONS)	4 to 5 Km/h	
Cutting Height	300 to 600 mm	
Intake Spout Width	860mm	
Equipment Maximum Width	2.340mm	
Equipment Maximum Length	2.200mm	2.750mm
Machine length	5.100mm	4.630mm
Tractor Minimum Power	60 hp	
Pto rpm	540 RPM	
Rotor and roller revolution	800 to 1.000 RPM	
Weight	1.050 Kg	1.130Kg
Loading Capacity	500kg	
Oil Capacity (GEARBOX)	1litre oil SAE 140	
Tires	7,00 x 16	
Cubic Meter (READY)	26,25 m <sup>3</sup>	
Cubic Meter (KNOCKED DOWN)	11,28m <sup>3</sup>	10,45m <sup>3</sup>

**ROUND TUBE CHASSIS  
JM 350 - JM 350G**



Round tube Dimension			
A	B	C	D
3.650	-	1.040	965
3.850	200	1.340	1.050
4.150	500		1.135
4.350	700		1.220
4.750	1.100		

**SQUARE TUBE CHASSIS  
JM 350 - JM 350 G**



Square tube Dimension			
A	B	C	D
3.850	-	1.040	1.050
4.350	500	1.340	1.135
4.550	700		1.220
4.950	1.100		

#### 4 - OPTION

<b>PART NUMBER</b>	<b>DESCRIPTION</b>
42.07.680	BEAN KIT JM-350/JM-350G
60.03.004	GRAIN DEPOSIT KIT

#### 5 - EQUIPMENT COMPOSITION

<b>PART NUMBER</b>	<b>DESCRIPTION</b>
42.01.869	BAR
42.01.868	TRACTOR HITCHING ARM
42.08.577	EXTENSION BAR
42.01.939	MALE PTO SHAFT
42.01.940	FEMALE PTO SHAFT
96.03.035	WHEEL
42.01.901	DRAWBAR
42.01.891	OUTLET SPOUT (JM 350G)
	BUMPER

## 6 - SOIL PREPARATION

Before the operation, make a general re-tightening in your equipment. Check the pins and nuts as well.

Check if there is any subject inside the equipments. In case there is any object inside the equipment, take it out to prevent damage in your **JM350 - 350G**.

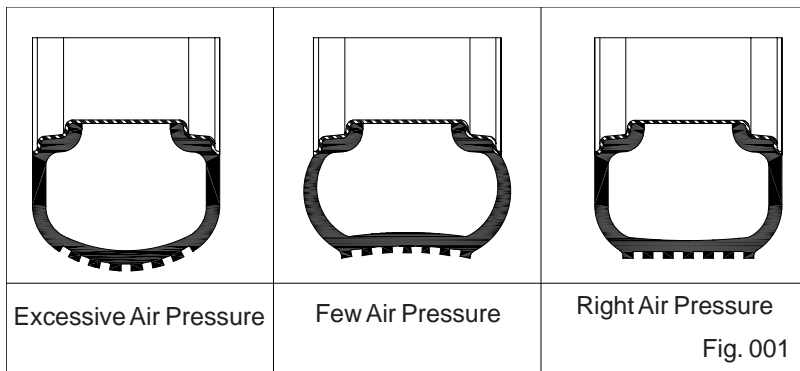
Lubricate your product according to the instructions.

### 6.1 - TIRE CARE

To ensure a long life of the tire in your product, the following cares should be taken:

The conditions of stubbles are important agents in the tire lifetime; therefore it is advisable to leave stubble in a such height that the same one be resistant to the tire action.

<b>Tire Air Table</b>			
<b>Sizes</b>	<b>Ply Capacity</b>	<b>Max. Pressure</b>	
		<b>kg/cm<sup>2</sup></b>	<b>lb/pol<sup>2</sup></b>
7.00 - 16 Militar Tire	10	4,2	60



## **ATTENTION**

The tire must be with the right air pressure. The lack of pressure causes their premature worn out and change the work precision.

## 6.2 - HITCHING TO THE TRACTOR

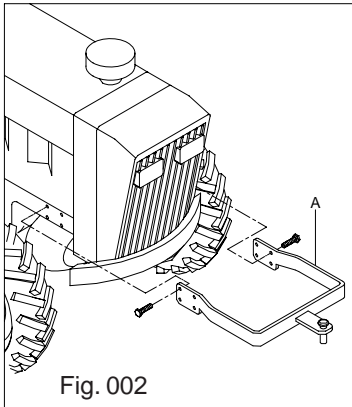


Fig. 002

Remove all parts from the tractor hydraulic system.

Put the adaptation support (bumper) in front of the tractor to attached the front hitching arm (Fig. 002). This attachment is supplied by **JUMIL** and it is suitable for every tractor model.

Replace the drawbar from the tractor by the drawbar supplied by Jumil, which is delivered with the equipment (Fig. 003).

Put the tractor close to the equipment as per the hitching system ("A"). Attach the drawbar to the rear hitch of the machine (Fig. 003), while keeping a minimum distance of 10cm between the tractor tires and machine belts.

The adjustment of this distance is made through the drawbar holes.

Laterally the distance between the rear tire and the machine must be 15 to 30cm ("y" in the scheme of hitching "B"). This distance is adjusted by the tractor drawbar farther to the right of left (Fig. 004)

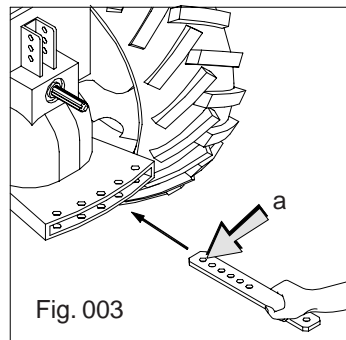
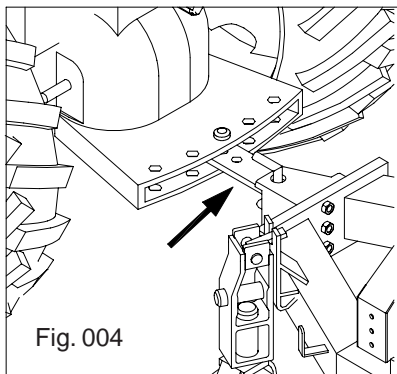


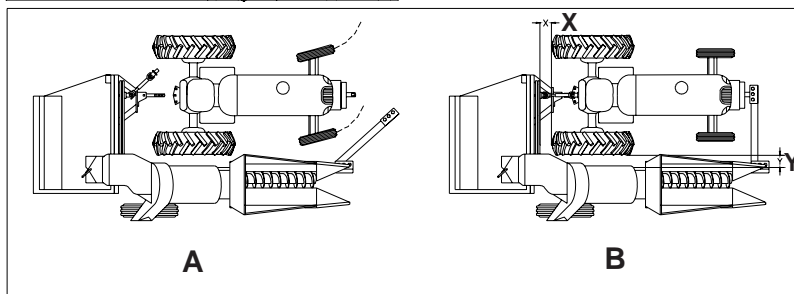
Fig. 003

### **ATTENTION**

**Only use the last hole on the drawbar ("a" Fig. 003) as the last adjustment necessity to prevent its possible breakage.**

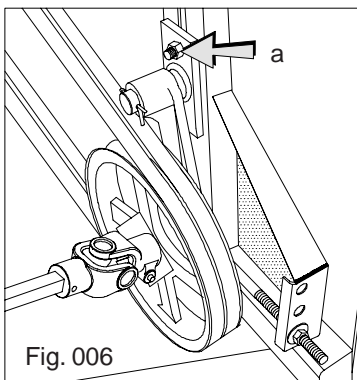
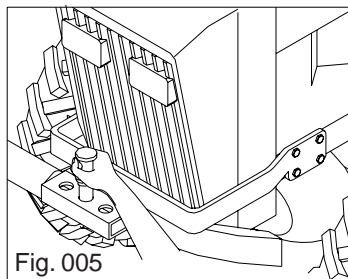


If this adjustment is not enough, shorten the track track of the machine side.



### HITCHING SCHEME

Put the front hitching arm the corresponding hole to the length up to the tractor and attach the front adaptation support (bumper) of it (Fig. 005), while adjusting it through the holes so that the machine and tractor are parallel.



Connect the transmission shaft to the tractor power takeoff and keep it aligned and leveled, this adjustment is made by adjusting the height of the pulley "vertical travel" on its own support (through the nut Fig.006).

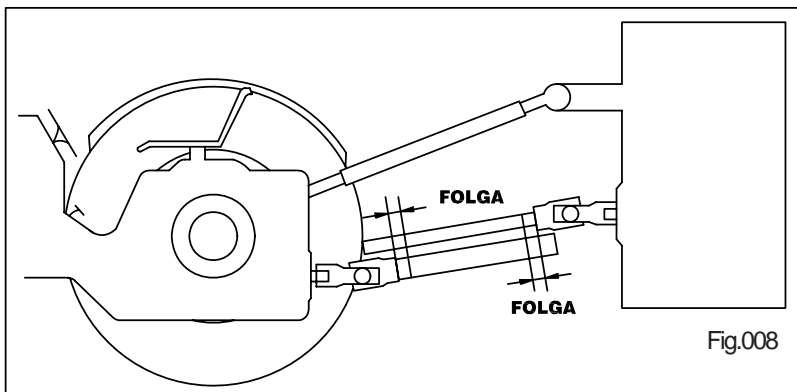
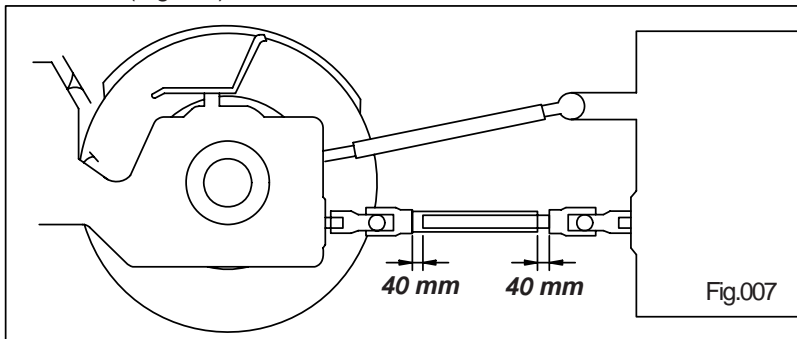


### 6.3 - HOW TO ADJUST THE MACHINE TO THE TRACTOR

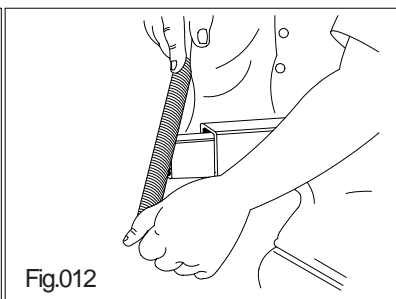
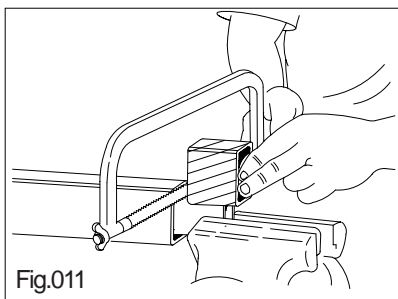
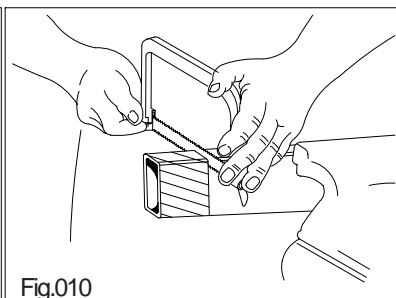
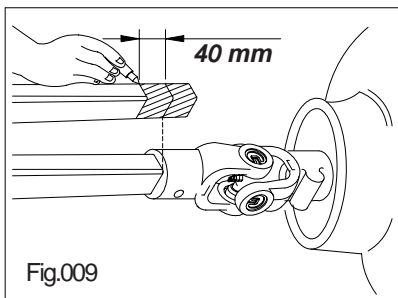
For a good performance of the transmission shaft, we recommend you to follow the instructions below before starting to work.

1 - With the machine hitched to the tractor, remove the shaft from the shaft tube, through the use of pressure buttons, hold the corresponding shaft ends to the tractor and machine.

2 - Overlap one on another and mark each on where the exceeding part must be cut off, besides this mark, a free space of 40mm must be considered (Fig.007).



3 - After the marks being determined where the excess is going to be cut off, shorten the inner and outer protecting tubes in the same lengths. Shorten the inner and outer sliding bars in the same dimension of protecting tubes. Remove all sharp points and ends, grease the sliding tubes.



## **⚠ ATTENTION**

*The transmission shaft dimension must be checked and/or adjusted if necessary, every time the tractor model and/or type is changed.*

*Without following this procedure, the implement or the transmission shaft will suffer severe damages.*

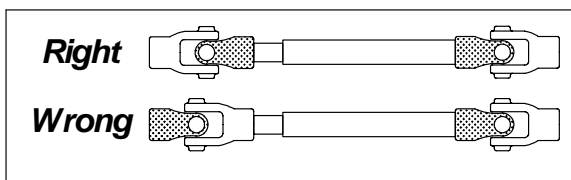
## **⚠ ATTENTION**

**Always keep tightened bolts between the chassis and structure.**

### 6.3.1 - TRANSMISSION SHAFT HITCH

Attach the transmission shaft and make sure the quick locking pins are perfect fitted (locked).

For the attachment of both parts, observe the inner and outer yokes are always in-line in the same plan, otherwise the transmission shaft will be subjected to vibrations, what may cause premature cross worn-out.



When changing the implement to another tractor model, check again the previous instructions.

## **ATTENTION**

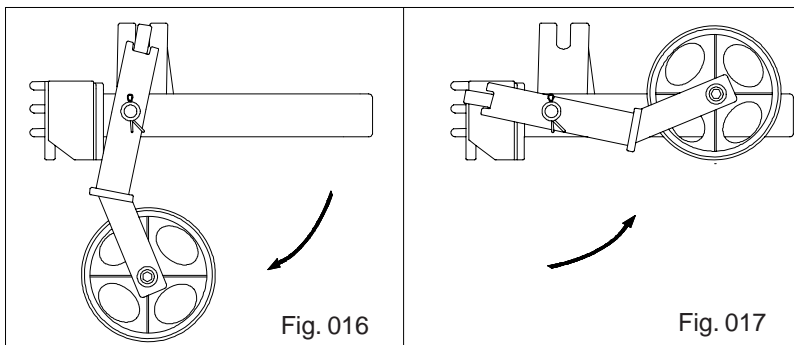
**I – ALWAYS** start the Tractor Pto revolution in slow gear, and **LATER** increase slowly up to reach the usual working revolution.

**II – BEFORE** stopping the Tractor Pto, **REDUCE** the engine acceleration up to the slow gear movement.

If these procedures are not followed, the transmission may have several damages.

## 6.4 - MACHINE TRANSPORTATION

Once the hitching is made, raise the support wheels and lock them in the appropriate support before moving the machine. (Fig. 016 e 017).

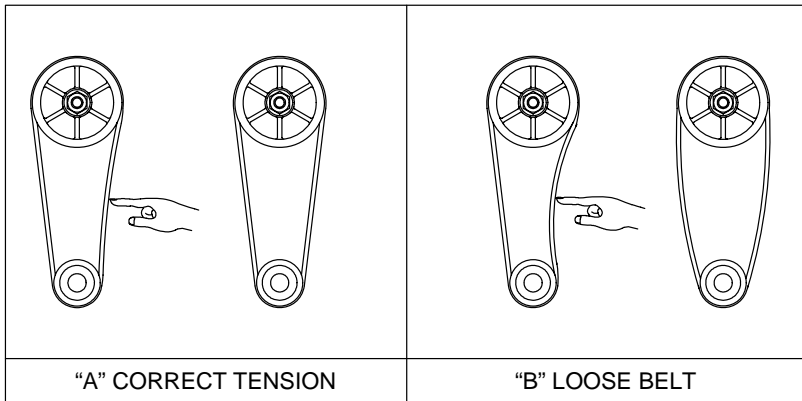


### **ATTENTION**

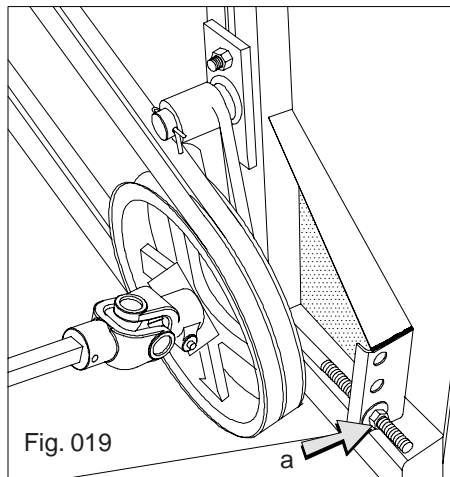
**Raise the machine support wheel, lock them in the appropriate support before making the its transportation.**

## 6.5 - TRANSMISSION BELTS ADJUSTMENT

It is extremely important that after 10 first working hours approximately and later every 50 hours, to check the belts tension. If the belt tension is according to the fig. "B", it will be necessary to make its corrections according to fig. "A".



To stretch the belts from the power take-off pulley, tighten the nut of the arming bolt. ("a"Fig. 019).



To stretch the belts of the pulley, it is just necessary to tighten the nut in the arming bolt ("a" Fig.020 and 021).

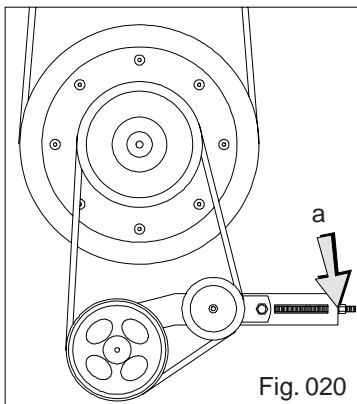


Fig. 020

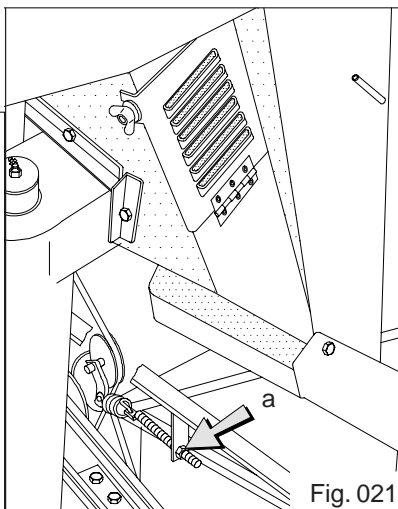


Fig. 021

## 6.6 - ADJUSTMENT OF THE MACHINE FOR HARVESTING

The machine must be operated from 800 to 1,000 rpm on the auger (harvesting fingers), according to the instructions on the machine, 540 rpm in the Pto.

The maize stalk to be harvested shall be in upright position, ripen and dry, with a maximum moisture around 18% to 20%.

According to the height of the maize stalks and tractor, adjust the height of harvesting intake spout by the use of the bar at a height from 300mm to 600mm from the soil (Fig. 022).

The working speed is 4 to 5 km/h and but it depends on the soil and crop conditions.

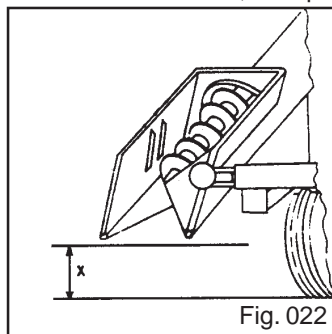
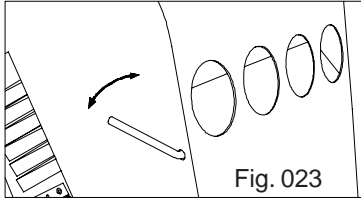


Fig. 022

When the harvest is started, check the cleaning of the maize and adjust the air vents (Fig. 023). For a more rigorous cleaning, with the removal of small and soft grains, the air vent shall be closed. In case the machine is throwing out maize, it is recommended to open it a little.

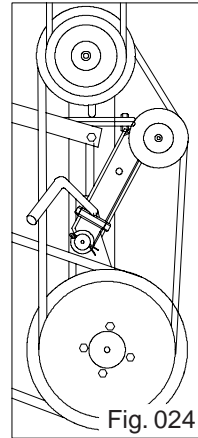


For a simple cleaning, the air vent can be opened up to the desired point.

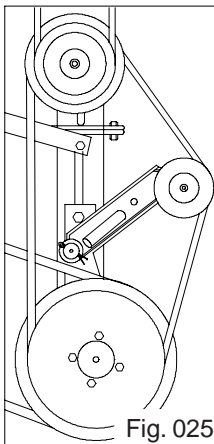
## JM 350

Before starting the harvest, put the bags in the bag-filling spout.

The load capacity of the container is 200 kg. When this limit is reached, unload the bags for a later and final collection. The number of people on the machine shall never exceed 2 workers.



## JM 350 G



To load the grain deposit, keep the hitching lever in the indicated position (Fig.025), without turning the elevator pulley.

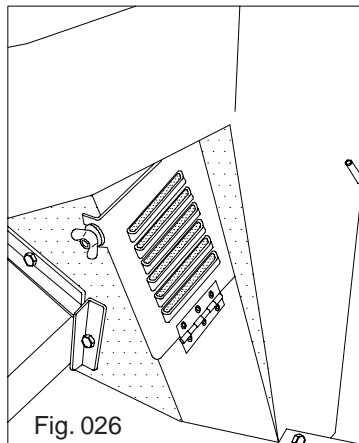
Stop the machine to grain deposit unloading as soon as it is full or it has reached the limit of 500 kg.

To unload the grain deposit, put the hitching lever of the elevator system in the same position as shown in the picture no. 25 which will stretch the belt by moving the maize elevator pulley and thus unloading it through the outlet spout.

If there is the necessity of stopping the machine during operation (as **JM 350** as **JM 350G**) proceed as follows: leave the harvesting row crop, keep the machine in operation until the grains are totally unloaded and the machine can be stopped. Never stop the machine loaded with maize.

## 6.7 - OVERFEEDING

The excess of weeds, mainly those with a strong fiber may cause the overfeeding of the machine. In case it happens, stop the machine immediately, open the intermediary conductor cover (Fig.026) and through the opening, remove all weed excess.



## 7 - MAINTENANCE

We suggest you some maintenance cares, which will allow a longer lifetime of the equipment and its better performance.

A maintenance service must be periodically made on the equipment; the following items are of a great importance for a perfect operation of the equipment in a work without interruptions.

### 7.1 - CLEANING

Always keep the machine clean to avoid the remaining of dirties and impurities of green material what can cause rust. The inside part of the machine shall also be cleaned and washed up and checking if there is not any impurity left behind. After this procedure spray a layer of oil, lubricate your equipment and keep it in an appropriate place, out of weather conditions.



## **7.2 - LUBRICATION**

### **7.2.1 - LUBRICATION OBJECTIVES**

The lubrication is the best guarantee of a good functioning and performance of the equipment. This procedure extends its lifetime of the movable parts and helps in the economy of maintenance costs.

Before starting the work, make sure the equipment is correctly lubricated; always follow the “Lubrication Plan”.

In this lubrication plan, we are considering that the equipment is working in normal conditions. For severe working conditions, we recommend you to reduce the lubrication intervals.

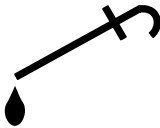
## **ATTENTION**

**Before starting the lubrication, clean the greaser points and replace the damaged ones.**

### **7.2.2 - LUBRICATION SYMBOLS**



Lubricate with grease containing lithium soap, NLGI-2 consistence in intervals of recommended hours.



Check the oil level every 120 working hours, use SAE 140 API-CD or equivalent.



Lubricate with SAE 140 API CD oil in intervals of recommended hours.



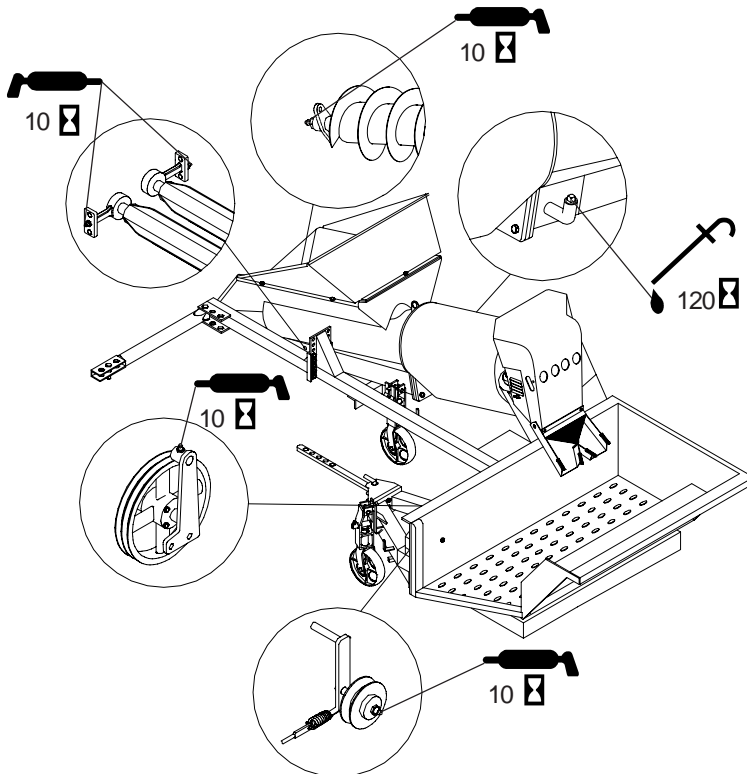
Intervals of lubrication in working hours.

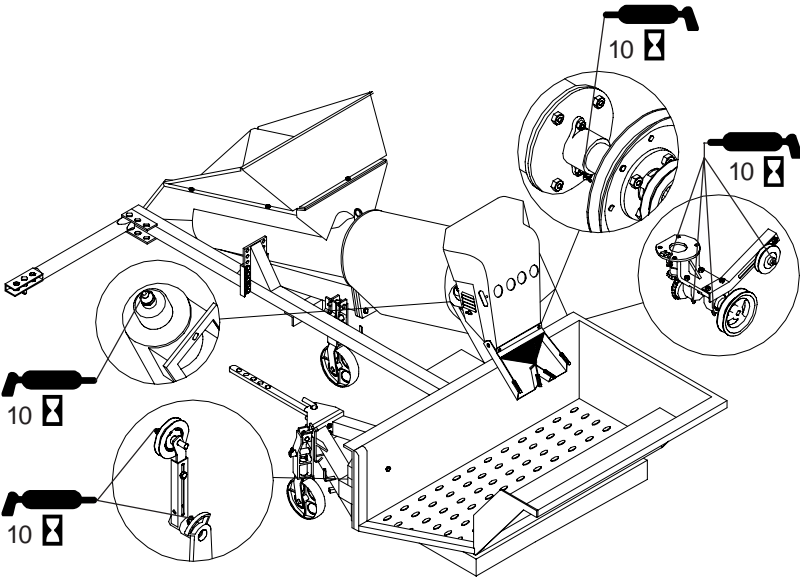
**7.2.3 - LUBRICANTS CHART**

RECOMMENDED LUBRICATION	EQUIVALENCE							
	PETROBRÁS	CASTROL	SHELL	TEXACO	IPIRANGA	BARDAHL	ESSO	MOBIL OIL
GREASE CONTAINING LITHIUM SOAP NLGI-2	LUBRAX GMA-2	LM-2	ALVANIA EP-2	MARFAK MP-2	ISAFLEX 2	MAXLUB APG-2EP	ESSO MULTI 2	MOBIL GREASE TT
SAE 140 API-GL5 OIL	LUBRAX TRM-5 SAE-140	HYPOYDE B/EP-140	SPIRAX HD-140	MULTIGEAR EP SAE 140	PIRGEROL SP-140	MAXLUB MA-135 EP	ESSO GX 140	MOBILUBE HD-140

## 7.2.4 - LUBRICATION POINTS

### JM 350





### 7.2.5 - LUBRICATION POINTS

#### JM 350 G

