

F.lli SPEDO



USER MANUAL AND MAINTENANCE

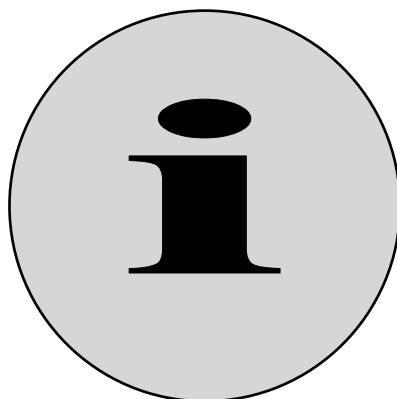
"Baby" Automatic Potato Planter

Serial number:



37043 CASTAGNARO (Verona) - Tel. 0442 92025 - Fax: 0442 675088
ITALY - E-mail: info@spedo.it - Internet: <http://www.spedo.it>

PREFACE



BEFORE USING THE MACHINE, READ THE USER MANUAL WITH CARE. THE PURPOSE OF THE USER INSTRUCTIONS IS TO ENSURE YOUR SAFETY AND PROTECT YOUR INVESTMENT, INDICATING THE CORRECT USE OF THE MACHINE AS IT IS INTENDED BY THE MANUFACTURER.

This document is an essential part of the machine and must be kept with the machine at all times, even when the machine changes hands or is moved around the premises.

NOTICE

The user and maintenance manual forms part of the technical documentation of the **"Baby" Automatic Potato Planter**.

The manual must be kept with care and made available to all parties concerned.

The dossier serves three purposes: as a guide for the operator, as a technical-commercial reference for the Customer and as an in-house company document for the F.lli SPEDO firm.

The text, images and drawings in this manual remain the sole property of the F.lli SPEDO firm.

The manual must not be duplicated, reproduced or divulged in any form or by any electronic, mechanical or photographic means without the prior consent of the F.lli SPEDO firm.

Updates and/or new revisions of this manual are issued only when the functional aspects of the machine are modified.

GENERAL INDEX

1. GENERAL INFORMATION	1
1.1 MACHINE IDENTIFICATION	1
1.2 LOCATION OF THE DATA PLATE.....	2
1.3 WHO TO CONTACT IN THE EVENT OF A FAULT.....	2
2. MAIN ESSENTIAL PRINCIPLES OF SAFETY	3
2.1 MAIN PRINCIPLES OF SAFETY	3-4
2.2 MAIN SAFETY RULES	5
2.3 RESIDUAL RISKS.....	6
2.4 AIRBORNE NOISE PRODUCED BY THE MACHINE	7
2.5 SAFETY PICTOGRAMS.....	7
3. TECHNICAL DATA	8
3.1 TECHNICAL FEATURES	8
4. TRANSPORT AND HANDLING OF THE MACHINE	9
4.1 TRANSPORT AND HANDLING OF THE MACHINE.....	9
4.2 DAMAGES CONTROL.....	9
5. OPERATING INSTRUCTIONS	10
5.1 GENERAL	10
5.2 CONNECTING THE MACHINE TO THE TOP-LINK.....	10
5.3 CONNECTING THE MACHINE TO THE TOWING HOOK	11
5.4 USE OF THE PLANTER.....	11
5.4.1 INTENDED USE	11
5.4.2 MACHINE OPERATIONS.....	11-12
5.4.3 CHANGING THE PLANTING DISTANCES.....	13
5.4.4 ADJUSTING THE FURROW PLOW	14
5.4.5 ADJUSTING THE DISCS	14
5.4.6 TUBER CUP	15
5.4.7 ADJUSTING THE POTATO GAUGE.....	15
6. MAINTENANCE	16
6.1 PRECAUTIONS	16
6.2 MACHINE MAINTENANCE	17
6.3 DISASSEMBLY AND REASSEMBLY OF THE COMPONENTS.....	18
7. DEMOLITION AND DISMANTLING OF THE MACHINE.....	19

1. GENERAL INFORMATION

The following pages show information on how to identify the "**Baby Automatic Potato Planter**" designed by F.lli SPEDO; the identification data is particularly important because it enables the Manufacturer to provide the user with technical information and all forms of assistance in a quick and efficient manner. F.lli SPEDO recommends, therefore, not to alter or remove the information required to identify the product.

1.1 MACHINE IDENTIFICATION

The physical form of identification is the screen-printed and stamped data plate bearing the data to be cited in communications with the F.lli SPEDO firm; this plate is the only one that the manufacturer recognizes as a form of identification of the product.

The data plate is shown in the drawing below.



CE Data Plate

1.2 LOCATION OF THE DATA PLATE

The data plate is located at the point shown in the picture.



1.3 WHO TO CONTACT IN THE EVENT OF A FAULT

Most technical problems can be resolved quickly and easily; the customer is recommended, therefore, to consult this manual before contacting our Assistance Service.

If the fault or problem cannot be resolved, the customer should refer to the local agent, or contact the manufacturer directly.

MANUFACTURER'S DETAILS

SPEDO F.LLI & C. Sas

Via Polesine, n. 119
37043 CASTAGNARO (Vr) Italy
Tel. 0442 92025 - Fax 0442 675088
www.spedo.it - E-mail: info@spedo.it

2 MAIN ESSENTIAL PRINCIPLES OF SAFETY

2.1 MAIN PRINCIPLES OF SAFETY

The F.lli SPEDO firm has designed the machine for the conditions of use and operations indicated in this manual. During use, operators should work in a vigilant and conscientious manner to ensure the maximum safety of the machine.

Care and safety instructions, and other specifications, are given in this Manual to draw the attention of the operator and other staff to the potential dangers associated with improper use of the machine. The instructions in this manual must be read with care by you and your colleagues.

- ⇒ IT IS NECESSARY TO FOLLOW THE SAFETY RULES ON THE MACHINE AND IN THE MANUAL, TO NOT DISABLE THE SAFETY DEVICES THAT ARE INSTALLED OR ANTICIPATED, AND TO PUT THE MACHINE TO THE SOLE USE INDICATED BY THE MANUFACTURER.

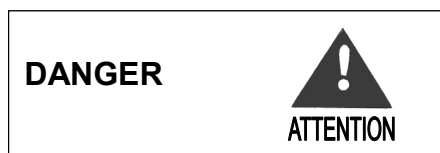
- ⇒ FAILURE TO OBSERVE THE SAFETY RULES AND/OR IMPROPER USE OF THE MACHINE CAN PUT YOU AND OTHER PEOPLE AT RISK.

- ⇒ IT IS RECOMMENDED TO FOLLOW THE MAINTENANCE INSTRUCTIONS PROVIDED IN THIS MANUAL.

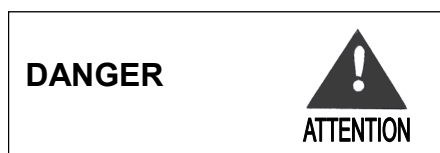
- ⇒ INSTRUCTIONS AND WARNINGS SUPPLEMENTS DO NOT REPLACE THE SAFETY REGULATIONS IN FORCE.
- ⇒ ATTENTION: SAFETY RULES ALONE DO NOT ELIMINATE THE RISK OF DANGER!
- ⇒ ALL THE INSTRUCTIONS GIVEN IN THIS MANUAL APPLY NOT ONLY TO NEW MACHINES BUT ALSO TO USED ONES.
- ⇒ Before starting up the machine, it is necessary to have read and understood this entire Instruction Manual, and to implement all the safety rules and recommendations provided. The content must be known to all the staff concerned.
- ⇒ Do not insert hands, arms or other limbs in the moving components. It is forbidden to reach inside the protective structures. It is forbidden to use devices that could increase natural access.
- ⇒ When trying to establish the cause of a fault or failure of the machine, take all the precautions described in the Manual to avoid damages or injuries.
- ⇒ An operator who feels ill or has a physical disabling health condition, even if slight, that could reduce watchfulness, must avoid operating the machine and inform the system manager.
- ⇒ It is forbidden to use the machine under the influence of alcohol, psychotropics or drugs.
- ⇒ It is strictly forbidden to disable, remove, alter or make inefficient any of the safety, protective or control devices of the unit or main machine, regardless of location. All the protective and safety devices must be kept in good condition and perfect working order. The instruction, recommendation and danger signs must also be kept in perfect order and correctly in place.
- ⇒ It is strictly forbidden to leave the machine connected to the tractor and raised up above the ground.
- ⇒ You are reminded to tighten all the screws, bolts and nuts on all the mechanical parts that can be adjusted or set up.
- ⇒ In the event of immediate danger, the driver must stop planting at once and turn off the cultivator or tractor.

2.2 MAIN SAFETY RULES

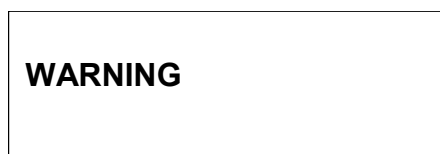
Below are instructions, suggestions and recommendations that F.Li SPEDO firm believes the user should follow to ensure a safe use of the machine and, at the same time, to utilize the product in the best way possible for the entire duration of its service life.



IT IS RECOMMENDED TO FOLLOW THE SAFETY INSTRUCTIONS ON THE MACHINE AND IN THE MANUAL, TO NOT REMOVE OR ALTER THE SAFETY DEVICES IN ANY WAY, AND TO USE THE MACHINE AS INDICATED BY THE MANUFACTURER.



THE INSTRUCTIONS REFER NOT ONLY TO NEW MACHINES BUT ALSO, IN GENERAL, TO "USED MACHINES".



IN ORDER TO LIMIT THE DAMAGES CAUSED BY THE OPERATING FAULTS OF THE MACHINE, WE STRONGLY RECOMMEND ALL USERS TO FOLLOW WITH CARE THE SAFETY RULES GIVEN IN THIS MANUAL.



USERS ARE STRONGLY ADVISED TO FOLLOW THE MAINTENANCE AND INSPECTION INSTRUCTIONS WITH CARE.

Below is an explanation of some of the terms used in this manual. In accordance with the MACHINE DIRECTIVE:

“Hazardous area”: any area in and/or near a machine where an exposed person is putting his health and safety at risk.

“Exposed person”: any person standing fully or partly in a hazardous area.

“Operator”: the person hired to install, operate, adjust, service, clean, repair and transport a machine.

2.3 RESIDUAL RISKS

The Manufacturer, on the basis of its experience, has reason to believe that the dangers listed below could potentially occur, depending on the working condition of the machine:

- A. WORKSTATION
- B. MACHINE IN OPERATION
- C. MACHINE IN MAINTENANCE MODE

Below are the Manufacturer's instructions on how to prevent damages or, at least, on how to limit the effects of damages.

A. WORKSTATION

1. The machine must be used only during daytime when natural light can guarantee a safe use of it. If light is poor, it should be made use of additional lighting devices set up by the customer.

B. MACHINE IN OPERATION

1. The operator runs the risk of crushing or catching limbs in the conveyor chain.

C. MACHINE IN MAINTENANCE MODE

1. Before carrying out maintenance, always separate the machine from the tractor or cultivator.

2. Maintenance should be carried out only as indicated in chapter 6 of this manual.

3. Wear gloves during maintenance to avoid the risk of cutting hands on contact with any protruding parts or edges that cannot be removed.

4. After maintenance operations are completed, always put the protective devices back in place.

2.4 AIRBORNE NOISE PRODUCED BY THE MACHINE

The machine has been designed and constructed to minimize the possible emission of airborne noise at the source, in accordance with the provisions of Directive 89/392/EEC, Annex I, paragraph 1.5.8.

Results:

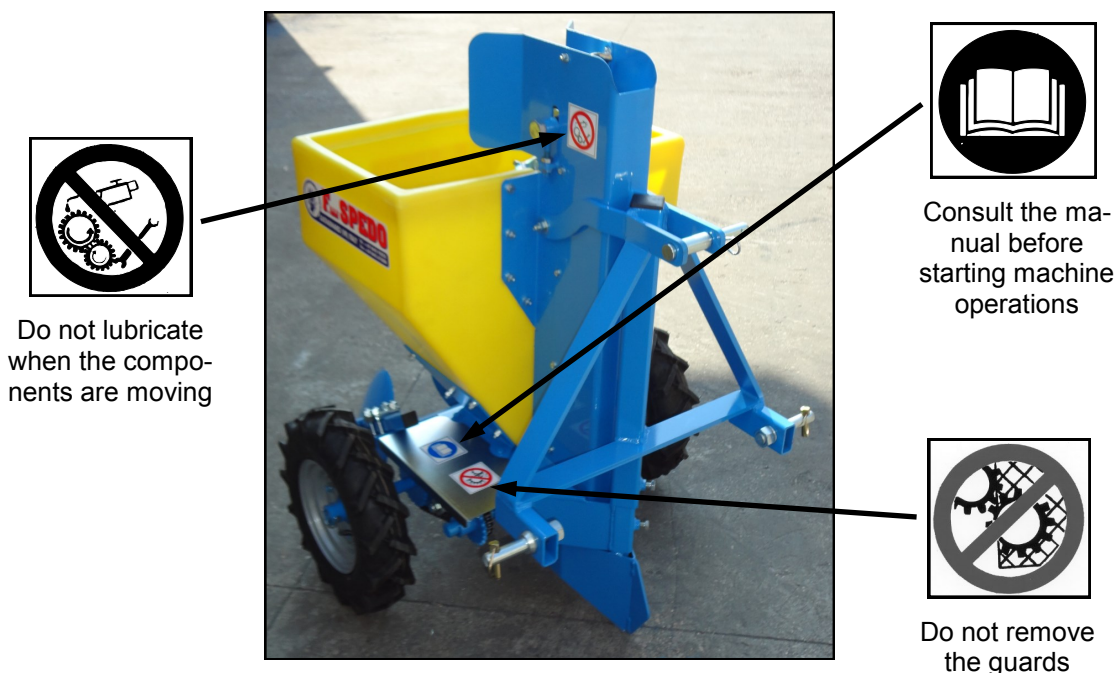
WORKERS ARE EXPOSED TO AN EQUIVALENT LEVEL OF NOISE OF LESS THAN 70 Dba.

The presence of a TRACTOR or CULTIVATOR will, of course, have a preponderant and negative effect on the level of noise in the work area.

The preponderant source of noise is, in fact, the tractive unit.

2.5 SAFETY PICTOGRAMS

The following safety pictograms can be found on the machine:



Safety pictograms

3. TECHNICAL DATA

3.1 TECHNICAL FEATURES

Below are the main features of the "Baby" Automatic Potato Planter for:

- Motorcultivator mod. **SPA-M**
- Small Tractor: mod. **SPA-T**

Modello - Model - Modèle - Modelo		SPA-M	SPA-T
Larghezza - Width - Largeur - Anchura	cm.	80	80
Lunghezza - Length - Longueur - Longitud	cm.	130	90
Altezza - Height - Hauteur - Altura	cm.	109	109
Peso - Weight - Poids - Peso	kg.	84	94
Potenza - Power - Puissance - Potencia	hp.	10	15
Capacità contenitore - Loading capacity - Capacité de charge - Capacidad contenedor	kg.	50	50

Drive Gear	Distances	Gear
Z. 31	Cm. 25	Z. 16
Z. 25	Cm. 30	Z. 16
Z. 31	Cm. 35	Z. 23
Z. 25	Cm. 40	Z. 23

Planting distances table

4. TRANSPORT AND HANDLING OF THE MACHINE

4.1 TRANSPORT AND HANDLING OF THE MACHINE

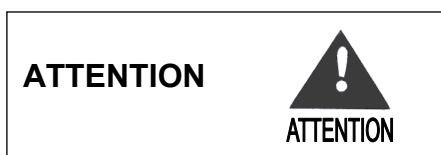
The "Baby" Automatic Potato Planter can be connected to a tractive unit by means of the top-link (tractor) or towing hook (cultivator).

4.2 DAMAGES CONTROL

Before all operations, always CHECK:

- ◇ that no part of the machine has suffered damage as a result of transportation and/or handling.

RECOMMENDATIONS



IT IS FORBIDDEN TO USE THE MACHINE WITHOUT ALL THE SAFETY DEVICES (PROTECTIVE GUARDS, COVERS, ETC.) INSTALLED AND FULLY FUNCTIONAL.

5. OPERATING INSTRUCTIONS

5.1 GENERAL

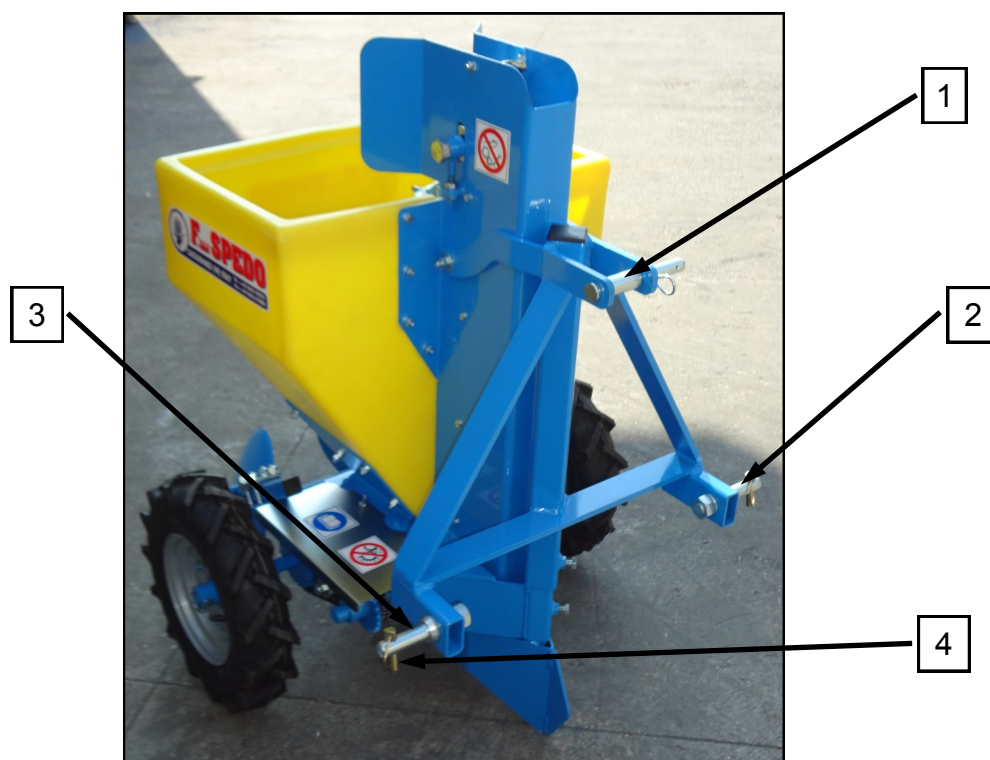
Before planting, always set up and adjust the machine according to the characteristics of the potatoes and/or ground used for planting.

All adjustments must be entrusted to personnel who are qualified and instructed.

5.2 CONNECTING THE MACHINE TO THE TOP-LINK

The "Baby" Automatic Potato Planter must be connected to the tractor by means of the top-link.

- a) To make the connection, insert the pins (1-2-3) as shown in the picture and secure them with the cotter pin (4).
- b) Lift the potato planter off the ground.



Connection to the top-link

5.3 CONNECTING THE MACHINE TO THE TOWING HOOK

The "Baby" Automatic Potato Planter must be only connected to cultivators with legal standards (provided with safety devices and dead's man button on the handlebar), through the towing hook (1). By means of four bolts the height of the hook (2) can be adjusted.



The handle bar is of some help during the handling of the machine connected to the cultivator.

Handle bar

5.4 USE OF THE PLANTER

5.4.1 INTENDED USE

The "Baby" Automatic Potato Planter, in its towed version (cultivator) or carried version (tractor), is used for the planting of potatoes, bulbs and tubers of various kinds.

5.4.2 MACHINE OPERATIONS

The machine opens a furrow, plants the tubers at regular intervals and covers them thanks to the discs.

The "Baby" Automatic Potato Planter consists of a container or loading hopper (1) with a rectangular base in which a conveyor chain (2) (after 4 working hours check out the chain tension), arranged vertically and equipped with equidistant eyelets (3), collects the potatoes, bulbs or tubers.

Tubers collected in the container during the ascending phase fall into the cups that precede them during the descending phase (the catenary is in a tube leading down to the soil) and are released into the ground the moment in which the bottom toothed pinion is inverted.

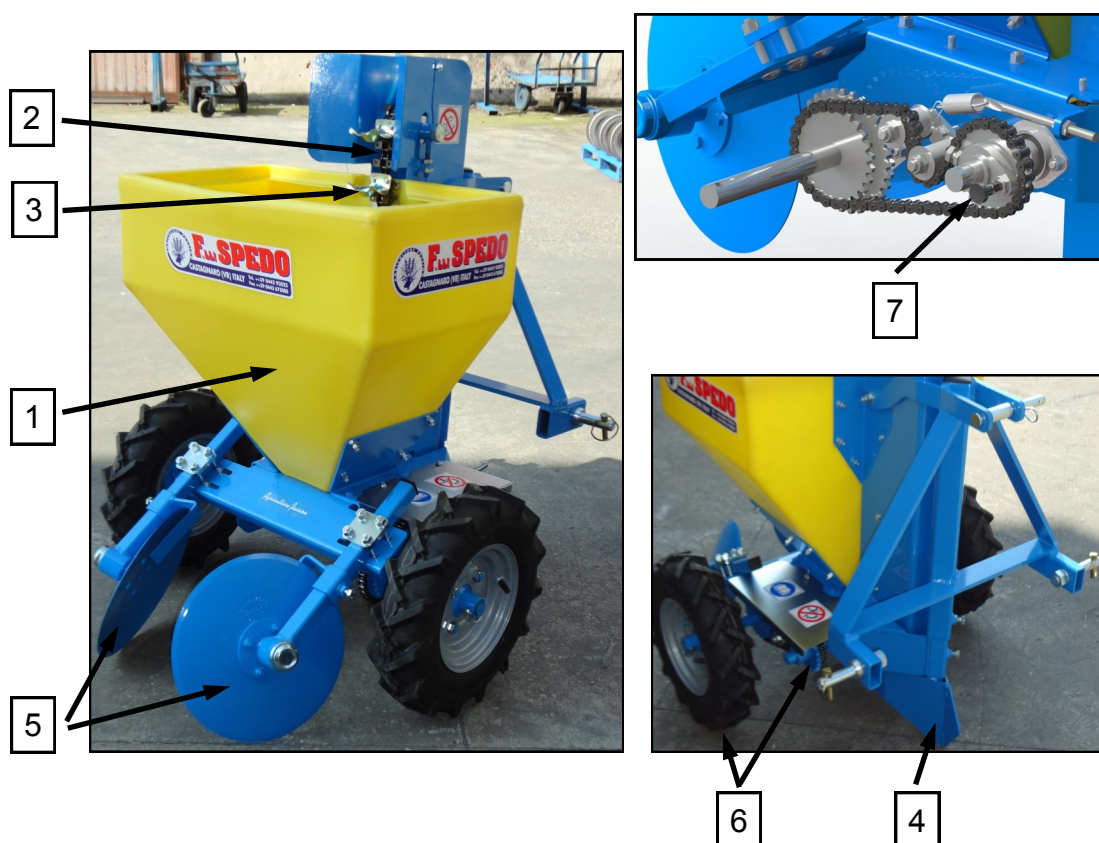
The potato falls into the furrow previously created by the plow (4); the potato is then covered by 2 height-adjustable idler discs (5).

The chain is turned by the driving wheels of the potato planter (6).

The machine has a system for engaging-disengaging rotation by the wheels (latch 7); it is a convenient way of disabling the planter for transport, in the case of the trailed model for cultivator.

In regard to the carried model (for tractor) connected to the top-link, the planter is disabled by lifting it up off the ground.

To have a well-functioning machine, it is necessary to tilt the planting channel by approximately 5 degrees (towards the tractive unit); for tractor, adjust the bracket of the top-link, for cultivator, adjust the plate of the towing hook.



5.4.3 CHANGING THE PLANTING DISTANCES

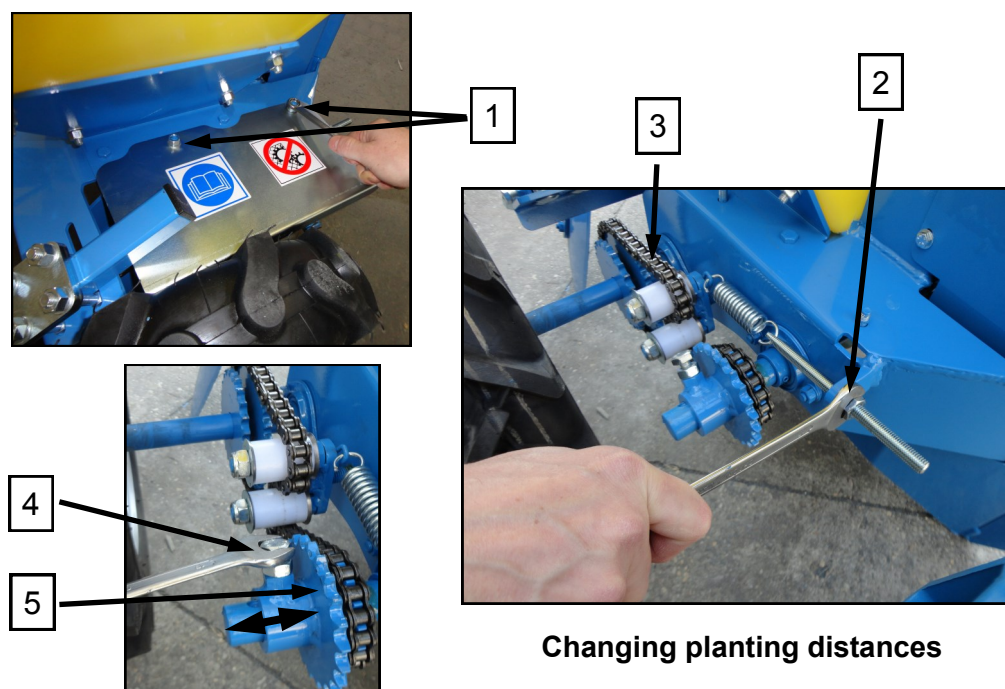
The distance between rows for the 1-row "Baby" Automatic Potato Planter is set according to the driver's discretion.

The "Baby" Automatic Potato Planter offers the possibility of changing the distance at which potatoes are planted by adjusting the gear ratio of the pinions.

The planting distances change through pinions is of very simple manoeuvrability and rapidly allow to choose the laying of tubers in the row at a desired distance included between the four available options (look at the information table on page 8).

With the machine disconnected from tractor and put on the ground or disconnected from cultivator it is possible to start the following operations:

- remove the guard by unscrewing the two nuts with spanner 13 (1)
- with spanner 17 loosen the chain stretcher by unscrewing the nut (2). With loose chain stretcher (3), move it to the planting distance selected (according to planting distances table on page 8). Adjust the gearwheels where the chain stretcher has just been positioned by unscrewing the bolt (4), move the pinion on the right or on the left (5) and tighten the bolt (4). Once selected the desired gear ratio, re-enable the chain stretcher by tightening the nut (2) and reposition the guard by inserting and tightening the nuts with spanner 13 (1).

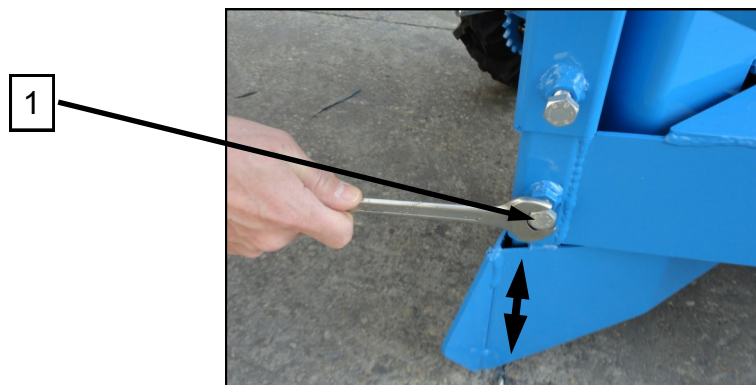


5.4.4 ADJUSTING THE FURROW PLOW

The planting depth of the machine can be changed by adjusting the height of the furrow plow as indicated below.

To adjust the height of the furrow plow:

- a) undo the screw fasteners (1)
- b) lift or lower the furrow plow as required
- c) re-tighten the screw fasteners (1).



Adjusting the furrow plow

5.4.5 ADJUSTING THE DISCS

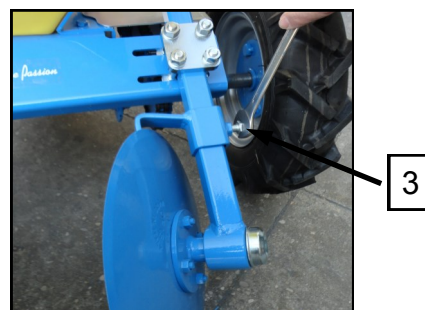
The "Baby" Automatic Potato Planter is fitted with height-adjustable discs for covering open furrows.

To adjust the discs:

- a) loosen the bolts (2) and position the discs as required, making sure they remain symmetrical.
- b) re-tighten the bolts (2).
- c) loosen the bolt (3) to adjust the scraper.



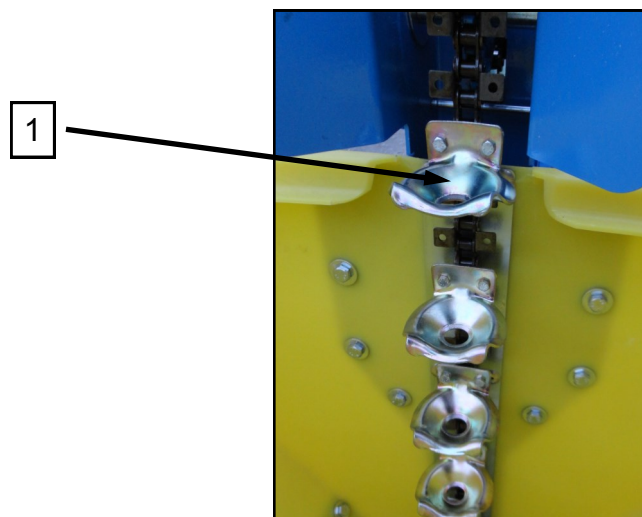
Adjusting the discs



Adjusting the scraper

5.4.6 TUBER CUP

The steel tuber cup (1), designed for the catching and laying of tubers, is integral with the conveyor chain coupling system and it is suited, in particular, for the planting of potatoes or bulbs of variable dimensions between 30 and 50 mm.

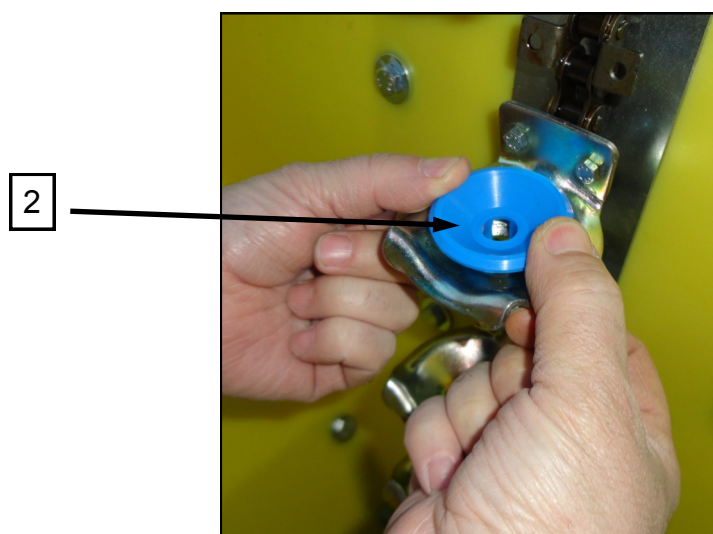


Cup

5.4.7 ADJUSTING THE POTATO GAUGE

Depending on the size of potatoes, the machine can be adapted to any product by means of a simple reducer.

In order to plant potatoes of a size smaller than 30 mm., it is necessary to fit the cup with a PVC reducer (2).



Reducer

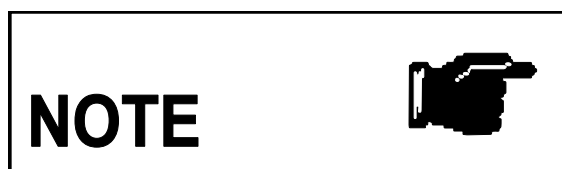
6. MAINTENANCE

6.1 PRECAUTIONS

Read this section carefully before servicing the machine: this will ensure greater safety for the personnel and greater efficiency and reliability of the work carried out.



ALL MAINTENANCE OPERATIONS MUST BE CARRIED OUT WITH THE MACHINE ON THE GROUND AND DISCONNECTED FROM THE TRACTOR OR CULTIVATOR.



MAINTENANCE OPERATIONS MUST BE ENTRUSTED ONLY TO QUALIFIED AUTHORIZED PERSONNEL

6.2 MACHINE MAINTENANCE

The "Baby" Automatic Potato Planter does not require any particular maintenance:

EACH SHIFT

Clean the machine carefully with water.
Lubricate the chains with care.

EVERY 40 HOURS

Check the tension of the chains and adjust them if necessary.

ONCE A YEAR

At the end of the planting season, clean the machine carefully with water, remove all potatoes from the hopper and conveyor and lubricate the chains thoroughly.

6.3 DISASSEMBLY AND REASSEMBLY OF THE COMPONENTS



ALL DISASSEMBLY AND REASSEMBLY OPERATIONS MUST BE CARRIED OUT AS FOLLOWS:

- A) ENSURE THE MACHINE IS AT COMPLETE STANDSTILL
- B) SET UP THE WORK ENVIRONMENT WITH ALL THE NECESSARY EQUIPMENT, AVOIDING ANY DANGEROUS COMBINATIONS
- C) CLEAN WITH CARE EACH PIECE TO BE RE-ASSEMBLED AND GREASE OR LUBRICATE IT, DEPENDING ON ITS INTENDED USE.

7. DEMOLITION AND DISMANTLING OF THE MACHINE

At the end of its useful life, the Customer must decommission the machine in accordance with legislation in force:

- General cleaning and sorting of the various parts of the machine, separating parts made of iron (structural parts) from those not made of iron (plastic containers, filters, etc.) for segregated disposal of the various materials.

It is strictly forbidden to dispose of waste and other materials in the environment.