

INSTRUCTION HANDBOOK

Minigraf[®] *A2M 200*



MADE IN ITALY

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ENGLISH

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1. GENERAL INFORMATION

1.1 PRODUCER

The firm Alfamacchine can boast more than 10 years of experience in the construction of Woodworking Machines. It has acquired technological know-how, developed during years of researches in strict touch with manufacturing and international commercialization. We offer the best warranty that anyone can grant to its customers.

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1.2 ASSISTANCE CENTERS

ALFAMACCHINE is represented worldwide by a numerous and prepared selling organization. Contact us directly to get the name of your local distributor.

For every need regarding Use, Maintenance or Request of Spare Parts, the Customer is pleased to address to the authorized service centers or directly to Alfamacchine, specifying the machine's identification data impressed on the plate.

1.3 CERTIFICATION

The machine is produced in conformity to the pertinent European Community Norms in force at the moment of its introduction on the market.

1.4 WARRANTY

Alfamacchine's products are built to have a long life and are tested one by one.

If in spite of this, any damages or malfunctioning would occur, the replacement of defective parts is warranted (counting from the date written on the delivery bill) for a period of:

- 24 months for mechanical components
- 12 months for pneumatic parts

The driver blade is tested for about 1.000.000 working cycles.

The Warranty does not cover the sending of technical staff.

The repair interventions will be performed at Alfamacchine's plants and the freight of shipment will be entirely charged to the Customer.

The warranty does not cover the damages caused by an inappropriate use of the machine or not corresponding to the instructions described in this handbook.

The warranty decays in case of unauthorized modifications or because of accidental damages or tampering performed by unqualified personnel.

The warranty also decays in case you use V-nails different from the original Alfamacchine ones.

1.5 PRE-ARRANGEMENTS CHARGED TO THE CUSTOMER

It the customer's duty on times agreed with the producer to execute what is indicated in our documentation.

Things normally charged to the customer:

- Premises predisposition, included building works and/or canalization eventually requested

1.6 HANDBOOK STRUCTURE

The customer must pay extreme attention to the indications reported in this handbook. The proper Pre-Arrangement, Installation and Use of the Machine, constitute the basis of a correct customer-distributor relationship.

1.6.1 Object and contents

The goal of this handbook is to provide to the customer all the necessary information so that they can properly use the machine & be able to run it in complete autonomy and safety. The handbook contains information concerning the technical aspects, machine working and standstill, maintenance, spare parts and safety. Before making any operation on the machine, the qualified technicians and operators must carefully read this handbook. In case of doubt about the correct interpretation of these instructions, ask Alfamacchine or your local distributor to have the problem explained.

1.6.2 Utilizers

This handbook is made both for operators and technicians authorized to perform the machine maintenance.

The operators can not execute operations reserved to the qualified technicians.

The producer does not answer to damages deriving from not-observing this prohibition







1.6.3 Preservation

The instruction handbook must be kept very closed to the machine in a special container protecting it from liquids and whatever could compromise its legibility



THE FOLLOWING INSTRUCTION HANDBOOK HAS BEEN TRANSLATED FROM THE ORIGINAL ITALIAN VERSION.

1.6.4 Symbols utilized

 P...	DANGER	It indicates a danger with a mortal risk for the operator
 A...	WARNING	It indicates a warning or a note about key functions or useful information. Pay the maximum attention to the paragraph marked with this symbol.
 O...	OBSERVATION	It is requested to take a measurement data, to check a signal,....
 I...	INQUIRY	The user is requested to check the proper positioning of any element of the machine, before operating a certain command
 C...	EXAMINATION	It's necessary to consult the handbook before performing a certain operation
 R...	ADJUSTMENT	In case of a strange situation and/or anomalies, you can be requested to perform a certain mechanical adjustment.

2. MACHINE DESCRIPTION

2.1 WORKING PRINCIPLE

The Frame Assembling A2M 200 has been realized to assemble any kind of frame.

The A2M 200 being of simple construction and extremely easy to use, makes it possible to join with absolute precision any kind of moulding by means of special steel V-nails.

It uses V-Nails with the “pulling power” effect in different sizes.

2.2 MAIN COMPONENTS

The main components constituting the machine are:

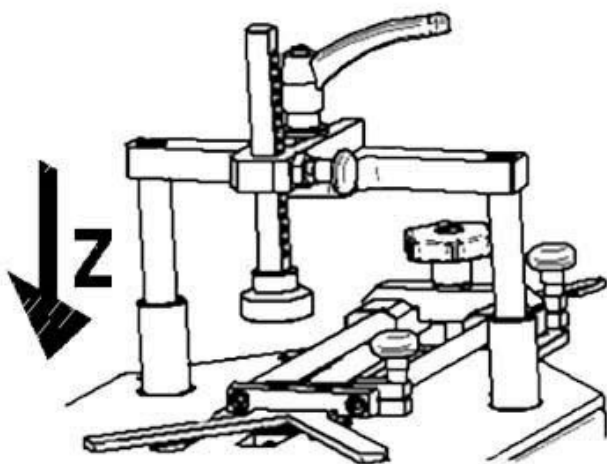
- Mechanical operating foot pedal
- Nail heads sizes 7, 10 and 15 mm.
- Adjustable vertical hold down;
- 90° fences size.

2.3 MACHINE STRUCTURE

Z AXIS

Movement of vertical clamp

Fig. 2.1 A movement directions



2.4 DIMENSIONS

The overall dimensions are reported on table 2.9-A

2.5 SURROUNDING CONDITIONS

The machine does not need special surrounding conditions. It has to be installed inside an industrial building, lit, aired and with a compact and flat floor. The permitted temperatures go from 5° to 40° C, with a humidity level not higher than 50% at 40° C or 90% at 20° C.

2.6 LIGHTING

Premises lighting must be conformed to the norms in force in that Country where the machine is installed and has to guarantee a clear view and can not create dangerous situations.

2.7 VIBRATIONS

In standard conditions conformed to the indication of machine proper utilization the vibrations do not create dangerous conditions because of the foot operated mechanical machine.

2.8 NOISE EMISSIONS

The machine is designed and projected for reducing the noise emission level to its source. In standard working conditions the Machine noise does not create dangerous conditions because of the foot operated mechanical machine.

The power noise level is:

- Acoustic Continuous Equivalent weighed pression A <70dB
- Acoustic Istantaneous weighed pression <130dB

The noise levels indicated are emission levels and are not representative of operating levels. In spite of existing a relationship between emission levels and exposure ones, this can not be used in a reliable way to define if further precautions are necessary. The factors determining the exposure level to which the working force is subjected, include exposure length, working premises characteristics and other noise sources (number of machines, closed building, etc...). Furthermore the allowed exposure levels could change according to the several Countries. At any rate the information provided will allow the Machine Operator to achieve a better evaluation of the danger and risks they are submitted to.



The indicated noise levels are emission ones measured in standard conditions of use. In case of any machine modification, the above mentioned levels could be changed and should be tested on the same machine.

2.9 TECHNICAL DATA

We have listed below the Machine’s data and technical characteristics to which you can use for reference for any eventual contact with your distributor for Technical Assistance.

TABLE 2. 9 A - Data and Specifications

- Frames thickness	min-max 6-90 mm.
- Frames width	min-max 6-130 mm.
- Max distance between Nails	min-max 175 mm.
- V-nails magazine capacity	n. 220
- V-nails size	7, 10, 15 mm.
- V-nails size on request	3, 5, 12 mm.
- Weight	about 38 kg
- Height of working bench	1000mm.
- Overall dimensions	380x600x1150mm.

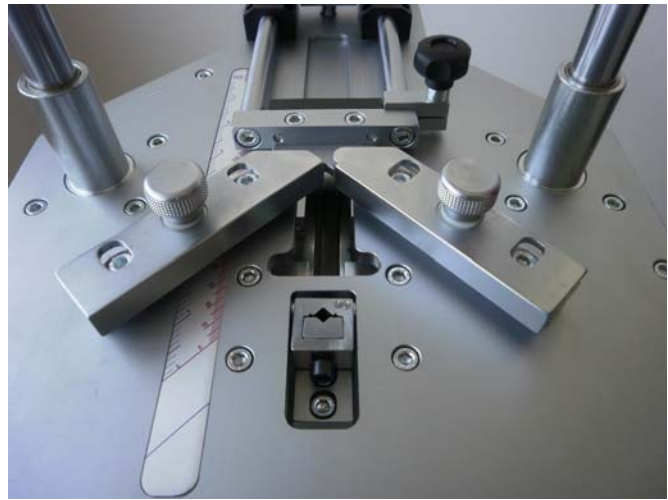


Figure 1

2.10 STANDARD EQUIPMENT

The equipment listed below is standard.

2.10.1 Standard accessories

Once you have removed the packaging, please check the presence of the following accessories:).

- N.1 nail head mm.7
- N.1 nail head mm.10
- N.1 nail head mm.15
- N.1 L shaped pressure pad
- N.1 Rounding pressure pad
- N.1 Allen Wrench 5 mm. for V-nail head replacement
- N.1 Allen Wrench 6 mm. for machine assembly
- N.1 Brass rod magnet to remove V-nails

2.10.2 Upgrading and implementing of mechanical parts

The machine has been realized following a modular criterion, therefore the existing equipment can be further upgraded with additional accessories that will not alter its basic structure.

Technical upgrades on the machine model, if any, will be such that they can be installed at any time without requiring any substantial modifications to the machine structure.

2.10.3 Optional accessories

- Adjustable tilting fences (see fig. 1)
- Metallic working bench extension
- V-nail claw heads size 3-5-12 mm.

2.10.4 Customized optional accessories

Thanks to its versatility this machine can be ‘custom-made’ to meet our users’ requirements, with additional accessories that can make frame assembling easier: e.x. special fences for peculiar moulding shapes, special clamps to ensure the mouldings are locked properly during V-nail firing, and so on. You can have your local machine shop make these for you.

3. SAFETY

3.1 GENERAL WARNINGS

The operator must read paying the maximum attention to the information written on this Handbook, expressively about proper precautions for Safety listed in this chapter.

It is indispensable for the operator to follow the warnings list here below:

- Keep clean and ordered the machine and the working premises
- Provide appropriate containers to stock both just worked pieces and ready to work ones.
- Use the Machine only in normal psycho physical condition
- Wear an adequate clothing to avoid obstacles and/or dangerous entangles to/from the machine
- Wear the individual protection gears prescribed by instructions handbook, regarding the effected operations
- Do not remove or alter the warning plates and adhesive signs
- Keep the fingers away from the working area
- Keep the foot separated from the pedal during Machine regulation

3.2 SCHEDULED USE

The Machine is designed and constructed to execute junctions of frames made in wood, plastic or MDF.

The machine is designed for manual use only.

3.3 INADVISABLE USE

The machine has not to be used:

- For uses different from those listed in 3.2 paragraph
- In explosive or aggressive atmosphere, at high density of dust or oily substances suspended in the air
- In flammable atmosphere
- Outside in all weather severity
- For working materials not suitable with machine characteristics

3.4 DANGEROUS AREAS

The area of frames leaning is defined “working area”

The dangerous areas of machine, include the movable parts and surrounding zones.

3.5 RESIDUAL RISKS

During the normal working cycle and while maintenance, the operators are exposed to several residual risks that, because of operations own nature, can not be totally eliminated.

- Risk of finger crushing due to the presence of vertical clamping
- Risk of injury and finger crushing in the wheels and springs mechanism

Figure 3.4.A-Dangerous areas



Dangerous areas



3.6 SAFE WORKING PROCEDURES



The machine is projected and realized to eliminate any risk connected with its use. The utilizer is requested to achieve an adequate training to be instructed by Alfamacchine’s technicians.

The other risks related with manual working way, are the fingers crushing in the vertical clamp working area. It is necessary to follow carefully the following instructions:

- 1 Keep the fingers away from the vertical clamp working area
- 2 Keep the foot away from the pedal during machine regulation
- 3 Do not insert any fingres or things between the mechanical parts of the wheels mechanism

4. INSTALLATION

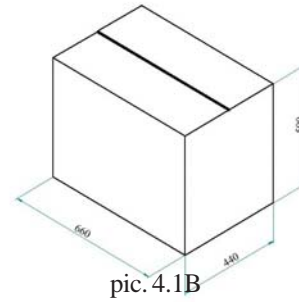
4.1 SHIPPING AND HANDLING

The shipment must be performed by a qualified technical staff. The machine has to be shipped in a safe way to avoid any damage to its parts.

Overall dimension : (660x440x500)mm

(see pic. 4.1B)

- The machine has to be shipped like it is positioned for installation.
- Before the shipment, it is necessary to lubricate the parts which are not painted.
- According to the type of shipment, it is necessary to protect the machine from any jarring impact or stress



pic. 4.1B



Machine total weight: about 40 Kilos

	<p>Lifting the machine must be performed by 2 operators.</p>
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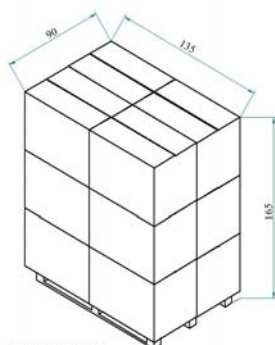
	<p>Keep and take care of the original packaging in case of machine storage and transport.</p>
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Any damage of the machine caused during its shipment or handling is not covered under warranty.

Repairs or replacements of damaged parts are charged to the customer.

4.2 MULTIPLE SHIPPING AND HANDLING

The shipment of more than one machine in the same time, may be done placing until a max quantity of 12 boxes (12 machines) for each single EURO PALLET. Overall dimensions = (1350x900x1650)mm.



SPEDEZIONE A2M-200:
Q.TA' DI 12 MACCHINE IN #1 EURO PALLET DIM. 120x80 mm
PESO TOTALE = 400KG COMPRESO PALLET
PESO SINGOLA MACCHINA = 40KG

4.3 STORAGE

In case of long inactivity, the machine must be stored with cautions concerning storage place and times.

- Store the machine indoors
- Protect the machine from jarring impacts and stresses
- Protect the machine from humidity and high temperatures
- Avoid corrosive materials that could touch the machine
- Lubricate the parts which are not painted

4.4 PRELIMINARY ARRANGEMENTS

To install the machine it is necessary to prepare a working area adequate to the machine's dimensions, lifting devices chosen and length of mouldings to be worked.

4.5 UNPACKING

The machine is shipped & packed into an appropriate carton which is protected with polystyrene sheets.

Remove the external packing and save it for future use.

Check for any casual shipping damage and report them immediately.

Shipping damages or any other defects must be reported to Alfamacchine not later than 3 days from receipt of the machine.

4.6 PRELIMINARY CONTROLS

The preliminary operations before starting the machine, must be executed by a technician appointed by the customer. Before setting up the machine, it is necessary to execute certain verifications and checks to prevent mistakes or accidents during setup.

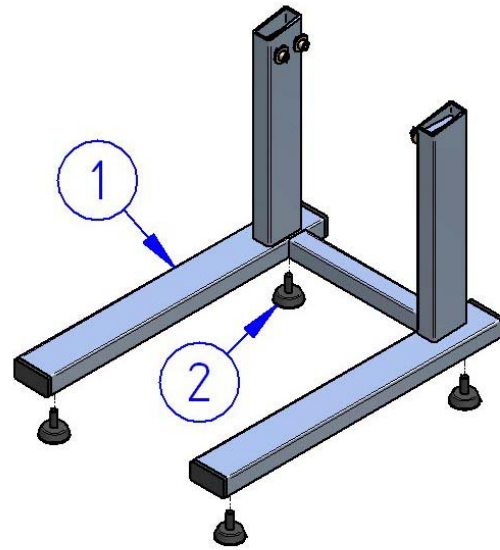
- Verify the integrity of the box upon receipt of the machine;
- Verify the whole content of the box in according to the parts listed at 4.7.1 before to proceed to the machine assembly.

4.7 MACHINE ASSEMBLY

4.7.1 KIT assembly parts list:

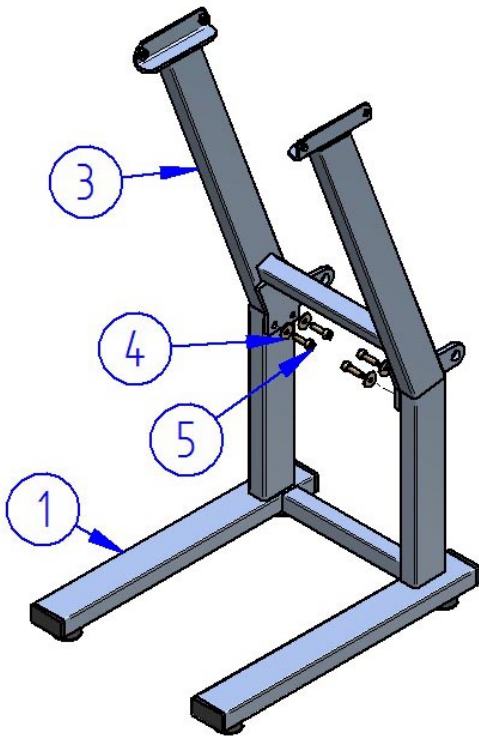
- (1) Bottom side floor-stand;
- (2) n.4 Rubber feet;
- (3) Upper side floor-stand;
- (4) n. 4 Washers;
- (5) n.4 Screws;
- (6) Foot-pedal;
- (7) n.2 Washers;
- (8) n.2 Screws;
- (9) Forck;
- (10) Clip;
- (11) Machine;
- (12) n.2 Washers;
- (13) n.2 Screws;
- (14) n.2 Washers;
- (15) n.2 Handle;
- (16) Vertical Clamp;
- (17) Washer;
- (18) Handle;
- (19) Cord;
- (20) Knob;
- (21) Step Extension;
- (22) Washer;
- (23) Bolt;
- (24) Left Wing;
- (25) Right Wing;
- (26) n.8 Washer;
- (27) n.8 Screws.

Pic. #1



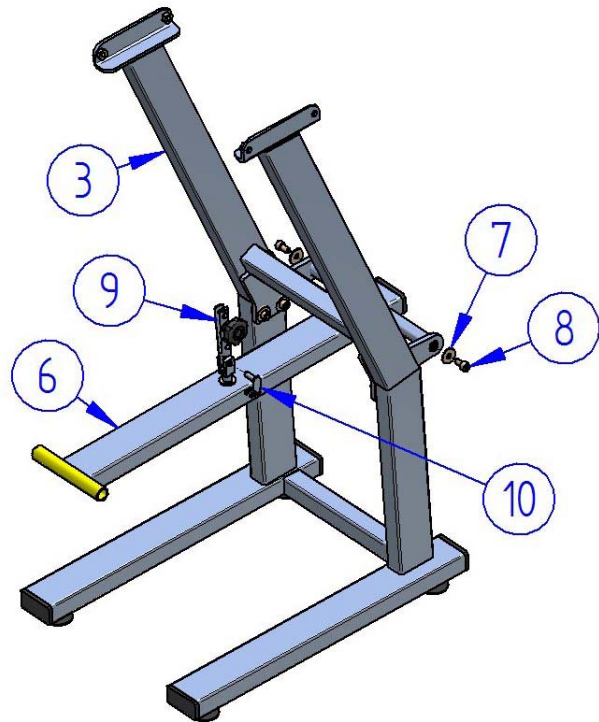
1 - Crew the n. 4 rubber feet (2) into the relevants threaded holes of the bottom side stand (1) ;

Pic. #2



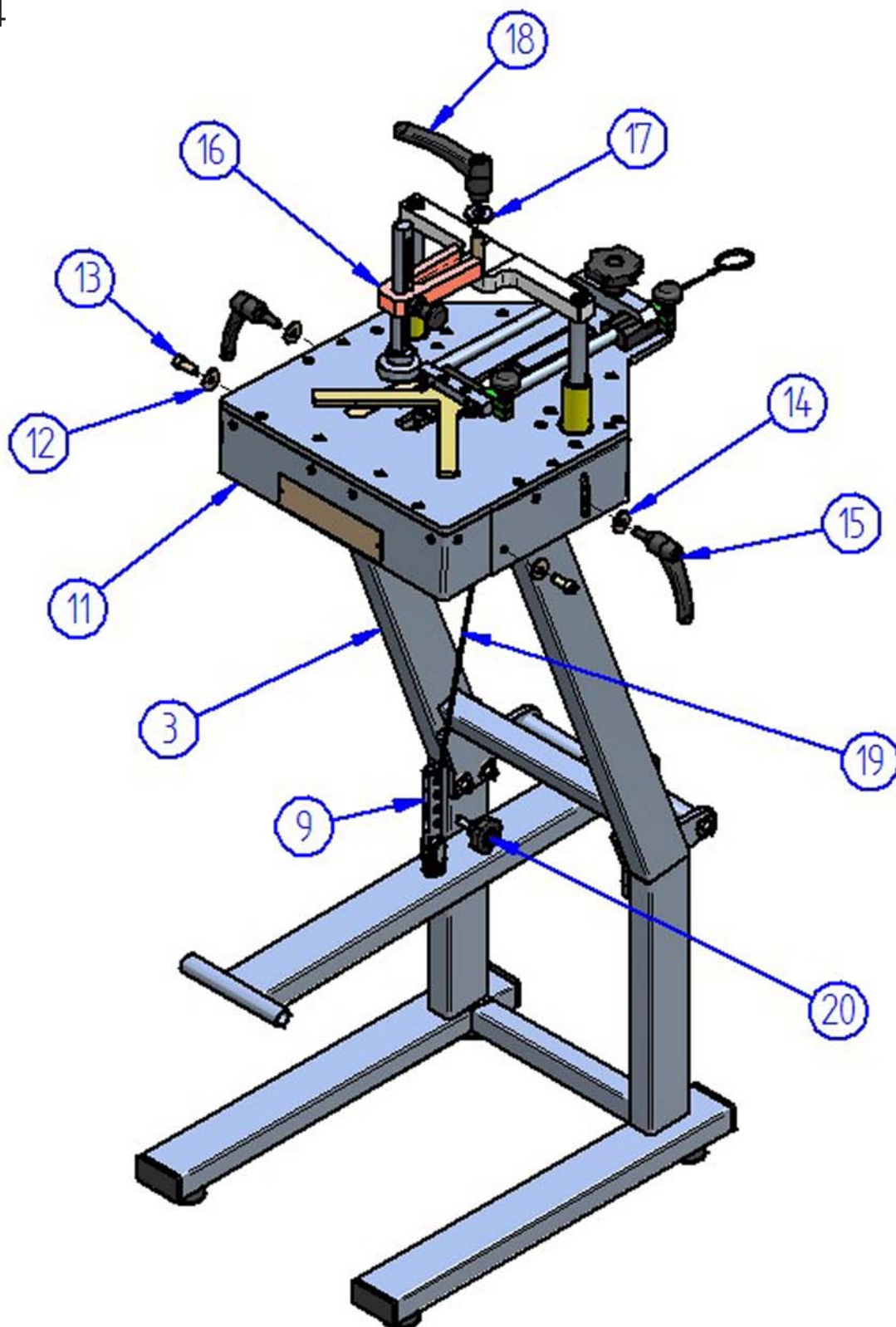
2 - Insert the upper side stand (3) into the bottom side one (1) ;
 3 - Lock the two parts tightening the provided screws (5) and washers (4) ;

Pic. #3



4 - Aligne the fulcrum side of the pedal (6) between the supports of the upper side stand (3) and tighten using the provided screws (8) and washers (7) ;
 5 - Hook the forck (9) to the pedal (6) and lock it by the clips (10) ;

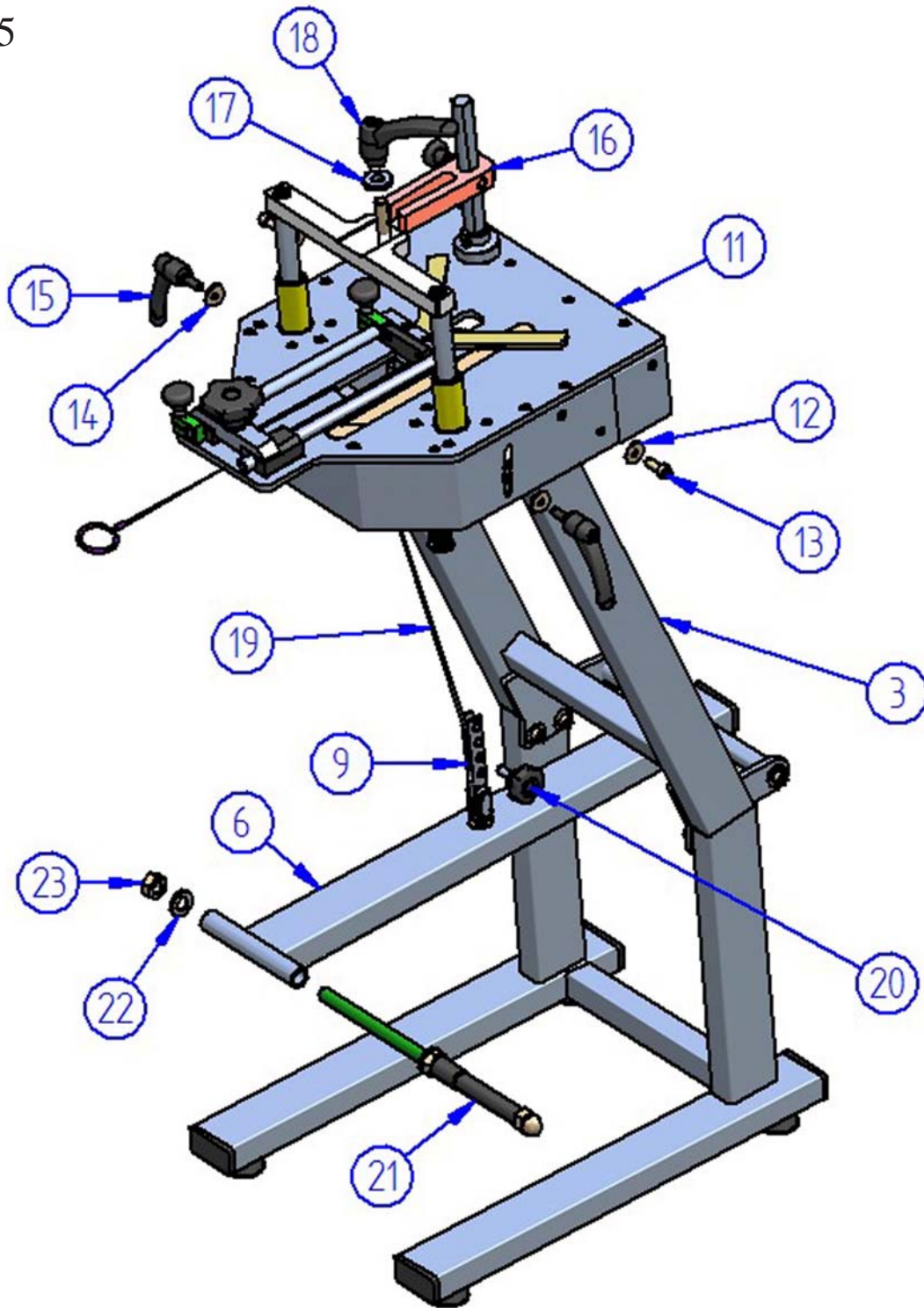
Pic. #4



4.7.2 MACHINE ASSEMBLY FOR FRONT USE SIDE:

- 6 - Place the machine (11) onto the legs of the upper side stand (3) ;
- 7 - Turn the machine in order to have the lable toward the user side, line up the holes of the machine sides with the stand ones then lock with the screws (13) and washers (12) ;
- 8 - Line up the machine slots to the threaded holes of the upper stand and lock by the handles (15) and washers (14) ;
- 9 - Mount the vertical hold down (16) and lock it by the handle (18) and washer (17) ;
- 10 - Hook the main cord (19) to the fork (9) by the provided knob(20) ;

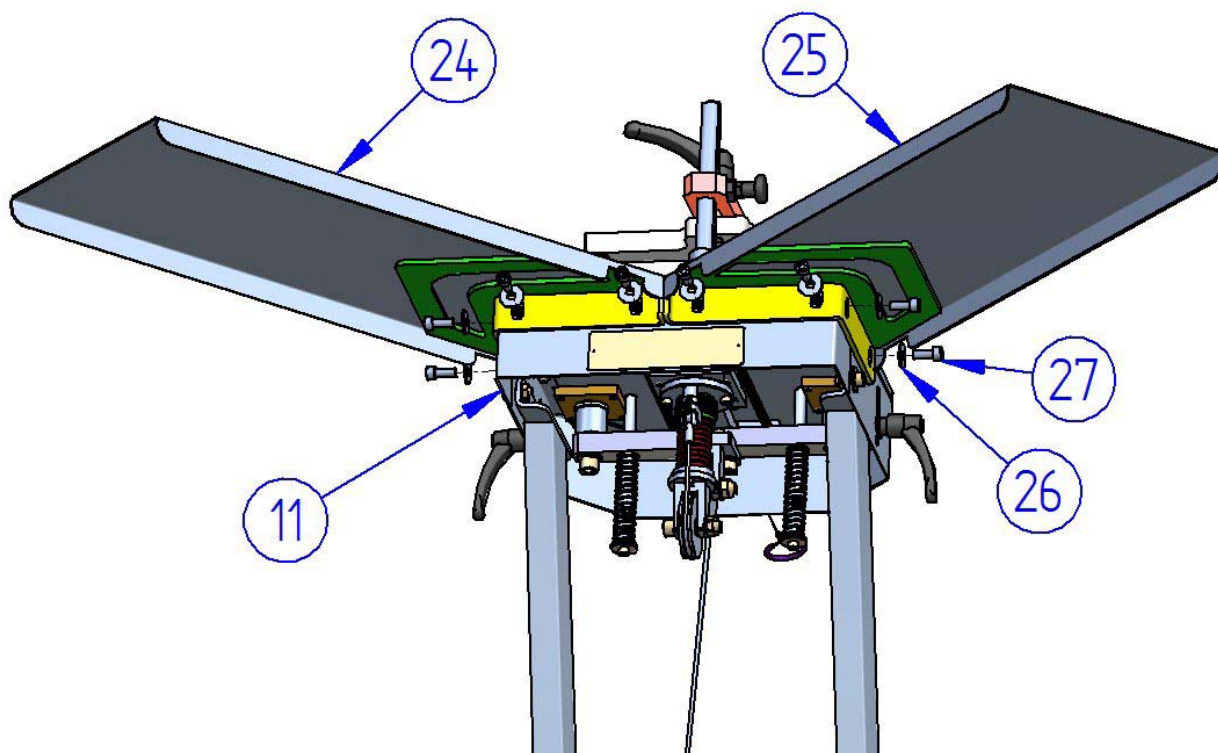
Pic. #5



4.7.3 MACHINE ASSEMBLY FOR BACK USE SIDE:

- 6 - Place the machine (11) onto the legs of the upper side stand (3) ;
 - 7 - Turn the machine in order to have the positions adjustment group toward the user side, line up the holes of the machine sides with the stand ones then lock with the screws (13) and washers (12) ;
 - 8 - Line up the machine slots to the threaded holes of the upper stand and lock by the handles (15) and washers (14) ;
 - 9 - Mount the vertical hold down (16) and lock it by the handle (18) and washer (17) ;
 - 10 - Hook the main cord (19) to the fork (9) by the provided knob (20) ;
 - 11 - Insert the step extension (21) through the tube of the pedal step (6) and lock by the bolt (23) and washer (22) ;
- N.B. The step extension may be mounted both to the left or right side.

Pic. #6



4.7.4 WINGS ASSEMBLY:

12 - Remove the flat point socket set screws (size M8x8) from the holes used for the wings mount of the machine sides;

13 - Line up the left wing (24) to the holes of the left side of the machine (11), set the upper face of the wing at the same level of the bench and lock it by the screws (27) and washers (28);

14 - Line up the right wing (25) to the holes of the right side of the machine (11), set the upper face of the wing at the same level of the bench and lock it by the screws (27) and washers (28);



4.8 MACHINE ARRANGEMENT

4.8.1 V-nails magazine loading

To load the V-nail magazine proceed as follows:

- Move the claw pusher backwards by means of the special control wire located on back side of the machine's working bench. This will give you access to the V-nail magazine (see pic. #7 & #8).
- Insert one or more V-nails strips into the magazine. Make sure that the sharpened edge of the V-nails (glue side) faces up and that they are loaded with the V of the V-nails pointing in the direction as indicated in the pic. #8.

Check to see if the V-nail size is suitable with the type of claw head mounted. (see pic. #11)

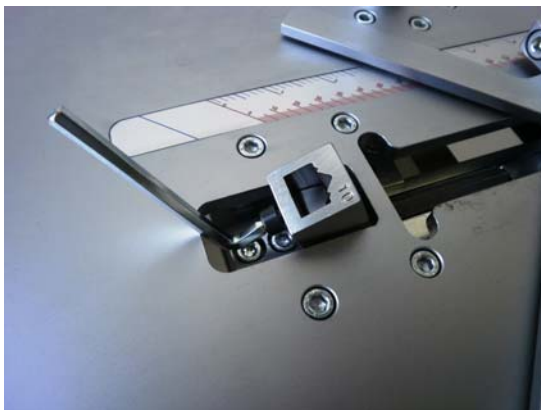
- Release the control wire to move the claw pusher forward. (see pic. #7).



pic. #7



pic. #8



pic. #9

4.8.2 V-nail guide head replacement to change V-nails size

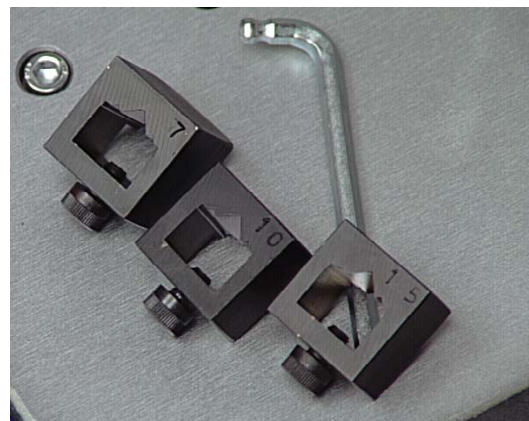
The V-nail guide head must be changed each time you use V-nails of different sizes.

Proceed as follows to replace it:

- Loosen the locking screw of the V-nail guide head by using the proper 5 mm Allen wrench (the screw is on the opposite side from the V-nails magazine (See pic. #9)
- Remove the V-nail guide head
- Move the claw pusher backwards by means of the special control wire located on the back side of the machine's working bench. This will give you access to the V-nail magazine (see pic. #7 & #8).
- Remove all the V-nails that are still in the magazine (using the proper brass magnet, if necessary) (see pic. #10).
- Insert the new V-nail strip (of desired height) into the magazine
- Move the clawpusher forward, by releasing the control wire (see pic. #8).
- Insert the new size V-nail guide head to match the V-nails to be used (see pic. #11).
- Tighten the locking screw of the V-nail guide head (see pic. #9).



pic. #10



pic. #11

4.9 ADJUSTMENTS

The machine is completely tested and checked in ALFAMACCHINE's plants before its shipment, so the operator has only to perform the following adjustments:

4.9.1 V-nails inserting positions adjustment

To properly position the mouldings to be assembled, the A2M 200 is equipped with a 90° fence.

The fence can be shifted forward or backward in order to allow the proper positioning of the V-nails in the frame.

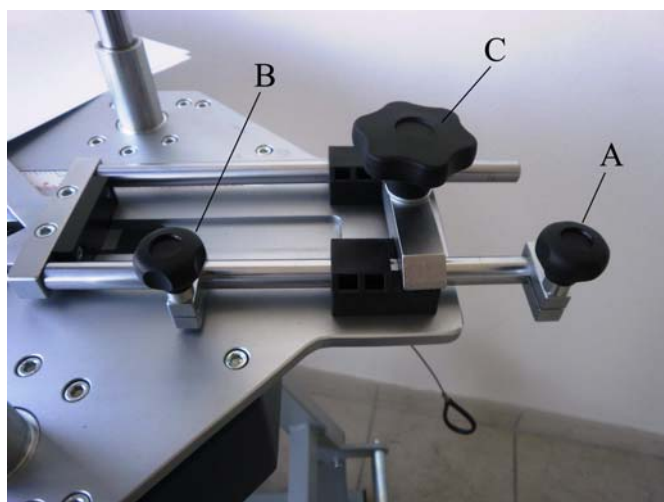
The fence limits (backward and forward) can be set with precision by means of locking clamps A-B (see pic. #12).

The operator can easily use the machine to insert V-nails with extreme precision between the two 2 mechanical stroke (see pic. #13 & #13A).

Tighten the knob C in order to lock the fences movement if needed.



figura 13



pic. #12



figura 13A

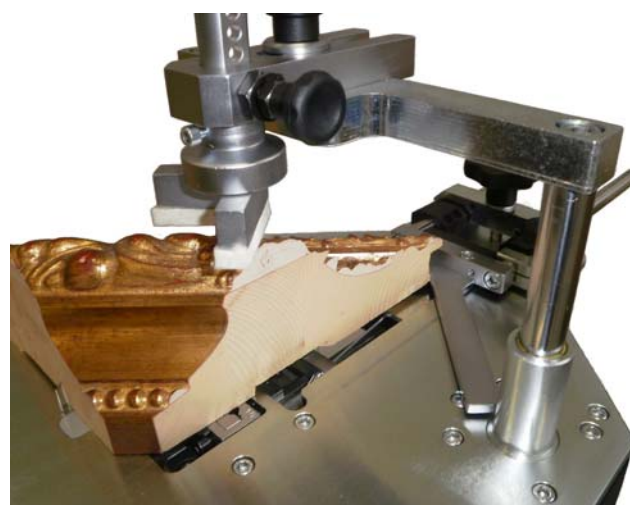


figura 13B

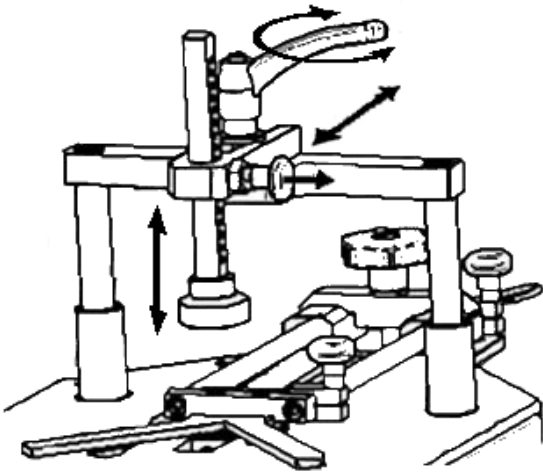
4.9.2 Vertical clamp adjustment

The vertical clamp can be adjusted in height and position.

Proceed as follows to adjust them:

4.9.3 Vertical clamp position adjustment

- Position the mouldings to be assembled on the working bench
- Loosen the top handle (see pic. #14 & #15) that locks the clamp, which holds the pressure pad bar. This will permit it'sd movement forward or backward. You will want the pressure pad directly over the V-nail inserting point.
- Tighten the handle once you have reached the proper position



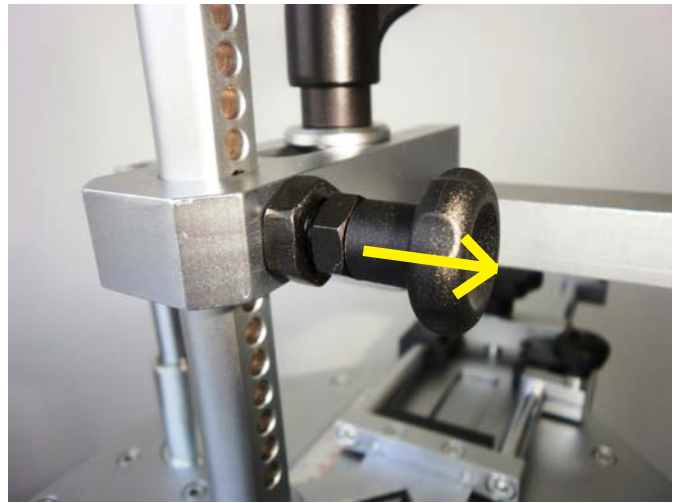
pic. #14



pic. #15

4.9.4 Vertical clamp height adjustment

- Pull out the plunger pin knob (see pic. #15) and adjust the pressure pad height over the frame. We recommned that you put the bar height between 5mm and 8 mm above the moulding. This will help prevent any accidental fingers crushing.
- Release the plunger pin knob once you have reached the proper position
- Be sure that the vertical rod is complrtely in position (the pin is in) just moving it up an down a little bit.
- Lower the vertical clamp by pressing halfway down on the foot pedal. This will verify that the mouldings to be assembled are properly clamped.
- Press all the way down the foot pedal to insert the V-nail.



pic. #16

4.9.5 Working bench tilting adjustment

- The working bench of the machine may be tilted simply loosening both left and right machine side handles then tilting back or forward the machine through the provided slots.
- Take care to hold the machine by hand while the loosening of both the handles to avoid the qick drop of the machine toward the stroke because of the gravity.

Set the following suggested bench positions:

- Tilting Forward (see pic. #17a) ;
- Tilting Back (see pic. #17b) ;
- Flat (see pic. #17c) ;
- It is even possible to set any other position between the slot stroke;
- Once the tilt adjustment is completed, tighten as strong as possible both handles in order to lock the machine.



pic. #17a



pic. #17b



pic. #17c

4.9.6 Foot Pedal high adjustment

- The foot pedal is connected to the head group mechanism by a wheels and spring system that drive the clamp and hammer movements. Its high level from the ground depends on the tilting position of the working bench (see pic. #18).
- Once the bench position is set, adjust the hook of the cord positioning the cable plug in the proper hole of the pedal fork. Tighten the knob to lock the cord at the desired pedal height (see pic. #19).
- Be sure that once the pedal is completely stepped down, the driver blade is completely out to guarantee the complete nail insertion (see pic. #21);
- When the foot pedal is completely down, has not to interfere with the ground (vedi fig. 22).



pic. #18



pic. #19

4.9.7 Driver Blade heigh adjustment

The correct position of the driver blade when it is completely out, is when its upper surface is set at the same level of the nail head.

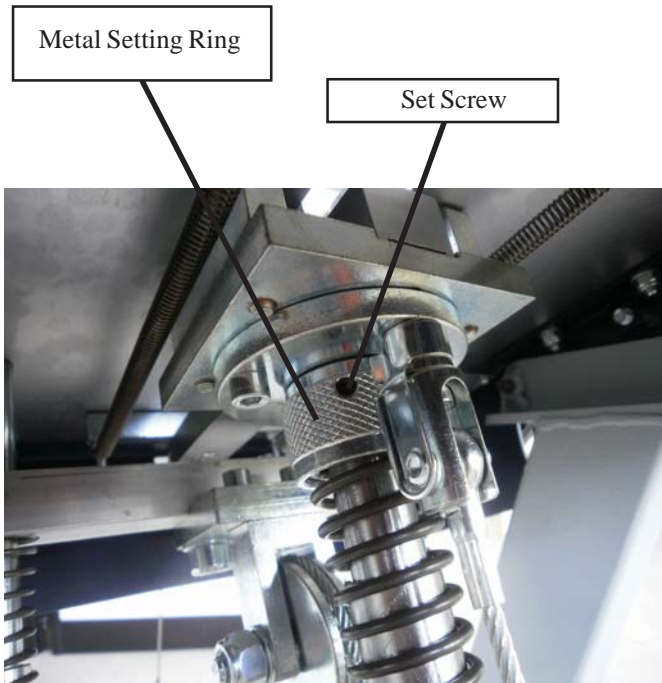
If the driver blade is too heigh it will sign the wood during the nail insertion.

To set the position:

- Loosen both the set screws (size M6) that lock the setting metal ring of the head group (see pic.#20);
- Turn the metal ring to adjust the upper position of the driver blade (see pic. #20);
- Step the foot pedal completely down in order to verify che correct position (see pic. #21);
- Tighten both set screws to lock the setting metal ring (see pic. #20).



pic. #22



pic. #20



pic. #23




pic. #21

4.10 Functions to be checked before starting work

Once the machine has been properly installed (like previously described), check that:

- 1 The mouldings to be assembled are properly positioned on the work bench.
- 2 The magazine is loaded with the type & size of V-nails suitable with the mouldings to be assembled
- 3 The claw head size matches the chosen V-nail height
- 4 The adjustment of the vertical clamp is correct (chapter 4.7.2)
- 5 Pressing half way down on the foot pedal the vertical clamp locks the moulding to be assembled perfectly.
- 6 Pressing the pedal full down inserts the V-nail.

	<p>If you want to insert 2 or more V-nails one upon the other in the same position, you must release the pedal halfway and then press it all the way down again to insert the second V-nail.</p>
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5. FUNCTIONING

5.1 OPERATORS

The machine has been projected to be used by only one operator.

The staff assigned to operate on the machine, must be in possession (or acquire through an adequate training) the requirements indicated here below, and, in addition, to have the knowledge of this handbook and of every information concerning safety:

- General and technical culture sufficient to comprehend this handbook contents and understand properly drawings and schemes
- Knowledge of main sanitary, technological and anti-accidental norms
- Overall knowledge of line and plant where is inserted the machine
- Specific experience of frames assembly working technologies
- To know how operate in case of emergency, where to find the individual protection means and how to use them properly.

The Maintenance Men, in addition to the above mentioned characteristics, must be in possession of an adequate technical education.

5.2 FUNCTIONING DESCRIPTION

The only possible way of operating of the machine is the manual mechanic functioning by using the foot pedal.

Press the foot pedal half way to get the frames clamping

Press the foot pedal full down to get the V-nail ejection.

To effect a junction, you must operate as follows:

- 1 Set the inserting positions by means of fence locking clamps
- 2 Lean the mouldings on the working bench positioning the fence on the first inserting point
- 3 Adjust the vertical clamp height and position
- 4 Press the foot pedal half way down and verify the proper positioning and holding of the mouldings to be assembled
- 5 Press the pedal full down to insert the V-nail. If you want to insert 2 or more V-nails one upon the other in the same position, you must release the pedal until half of its stroke and then press again it full down to insert the second V-nail and so on.
- 6 Release completely the foot pedal
- 7 Shift the mouldings and the fence on the next inserting point and repeat the steps 5,6 and 7.

5.3 TIPS FOR PERFECT JUNCTIONS

a) *V-nail types*

In order to allow the machine to make excellent quality junctions using different materials, it has been necessary to manufacture different V-nails types for different uses.

V-nails can be classified in three different groups:

for soft woods and soft plastic	Suggested V-nails code SW
for medium woods	Suggested V-nails code MW
for hard woods	Suggested V-nails code HW

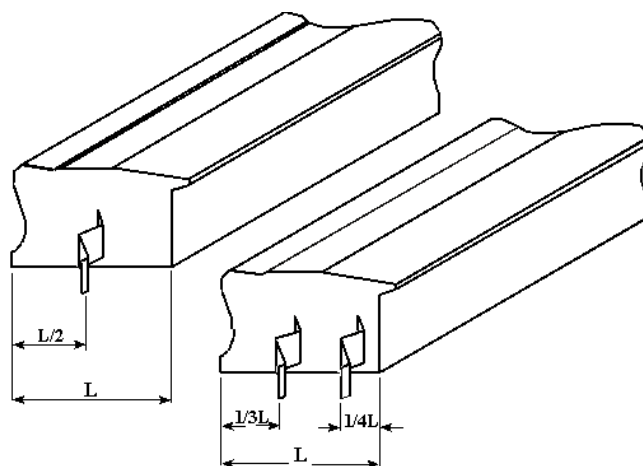
b) *Assembling positions*

It is advisable to operate as follows in order to achieve the best results in terms of junction quality:

⇒ Never drive V-nails near the junction vertex. The minimum recommended distance from the external vertex is at least 10mm.

⇒ When you want to make the junction using only one V-nail, the most suitable position is in the middle of the moulding.

⇒ In case you want to insert 2 or more V-nails into each junction, we recommend you to insert the most external one $1/3$ from the external vertex and the most internal one $1/4$ from the internal vertex.



pic. #24

5.4 MACHINE STOP

The machine can work only by pressing the foot pedal; to stop it is enough to lift the foot from the pedal.

5.5 MACHINE REINSTATEMENT

The machine reinstatement is effected by pressing the foot pedal.

6. MAINTENANCE

6.1 STATE OF MAINTENANCE

The maintenance operations must be performed with the machine in the conditions described at “state of the machine” in the tables 6.6-A and 6.7-A

6.2 SPECIAL CAUTIONS

During the maintenance or repair operations is suggested to proceed as follows:

- Before starting any operation place a sign “machine under maintenance” in a well visible position
- Do not use solvents or flammable materials
- Do not disperse into the environment lubricating liquids that have ozone harmful propellents.
- Do not step on the machine parts, because they have not been projected to sustain the weight of persons.
- Once all the operations are finished, replace any protections or shields you removed or opened

6.3 CLEANING

The machine structure is simple and robust therefore the mechanical parts do not require any special maintenance.

It is advisable to follow the rules listed below:

- Regularly remove glue or other residues from the V-nail head and from the upper part of the driver blade;
- Always keep the V-nail magazine clean & without residues.
- Remove any residue from the V-nails guide “L” shaped support.

Do not use water to clean the machine, otherwise metallic parts may oxidise.

6.4 ORDINARY MAINTENANCE

The following operations must be performed at the times indicated below. Not observing the following instructions exonerate the Producer from any responsibility regarding the warranty.

The operations described below, even if simple, must be executed by qualified staff.

The scheduled ordinary maintenance includes overhauls, checks and interventions that will help prevent stops and breakdowns, & keep the system working properly.

- Lubrication state of the machine
- Greasing state of the mechanism of clamp and driver blade movement
- Wear and tear parts state

Table 6.4-A

Maintenance	Description
V-nail driver blade	Replacement every 1.000.000 V-nails driven
Movable parts lubrication	Lubricate the driver blade every 200 working hours
V-nail claw heads	Replacement every 5.000.000 V-nails shot
“L” shaped supports (V-nails guide)	Replacement every 5.000.000 V-nails shot

6.5 MAIN CORD REPLACING

- Remove the knob from the foot pedal fork in order to release the cable plug (see pic. #25);
- Take out the CLIP that hold the cord to the fork of the head group (see pic. #26);
- Remove the wheel of the vertical column group movement to release the cord (see pic. #27);
- Place the new cable before to mount back the wheel;
- Hook the upper end of the cord to the head group fork ;
- Hook the lower end of the cord to the foot pedal fork at the desired pedal height level .



pic. #25



pic. #26



pic. #27

7 DIAGNOSTICS

7.1 SAFETY WARNINGS

The interventions must be executed by personnel properly trained and they must take all precautions in order to avoid accidental starts.

7.2 BREAKDOWN SEARCH

TABLE 7.2 - A

TROUBLE	CAUSE	CHECK AND REMEDY
Pressing the foot pedal the v-nails ejection is not regular	V-nails positioned wrong into the V-nail magazine	check that the sharpened side (glue side) faces up -check the V-nails direction
Pressing the foot pedal the v-nails ejection is not regular	magazine is obstructed or damaged	check that the V vertex of the V-nails is pointed to the machine external side
Pressing the foot pedal the v-nails ejection is not regular	Insufficient pressure on the claw pusher	check that the V-nails slide freely in the magazine. Clean the magazine
Pressing the foot pedal the v-nails ejection is not regular	The claw head does not match-up the v-nail height	Replace the clawhead with the correct one
Wishing to insert several V-nails one upon the other in the same point, they do not stack properly or tilt during their insertion	wrong type of v-nails	Replace the V-nails with suitable ones
Wishing to insert several V-nails one upon the other in the same point, they do not stack properly or tilt during their insertion	The frames clamping is not correct (the frame is moving during the V-nail insertion)	check and adjust the vertical clamp position -replace the vertical clamp pad with one more suitable to the frame you are using
Wishing to insert several V-nails one upon the other in the same point, they do not stack properly or tilt during their insertion	Jammed driver blade	Bad driver blade Replace the driver blade
Wishing to insert several V-nails one upon the other in the same point, they do not stack properly or tilt during their insertion	driver blade dirty	Clean the driver blade's upper part of any glue residue.

7.3 REQUEST OF ASSISTANCE

For any information regarding Use, Maintenance, Installation, etc.. we remain at your disposal. The Customer has to formulate clearly their questions by sending us a fax listing detailed descriptions of the problem. For eventual explanations you should use this handbook and the instructions listed in the paragraph 1.2.

E_Mail: info@alfamacchine.com
FAX: +39-0543-783302
via Selva, 23/25 - 47122 Forlì - Italy

8. SPARE PARTS

8.1 SPARE PARTS LIST

Even though the machine has been submitted to several tests and functional checks, we listed below the components that we suggest you have a minimum and sufficient set of. This will help guarantee the shortest possible downtime.

TABLE 8.1 - A

COMPONENT
V-NAILS DRIVER BLADE
V-NAILS CLAW HEADS "L"
SHAPED SUPPORT (V-NAILS GUIDE)

8.2 SPARE PARTS ORDERING

We remind you that only a qualified technician can repair the machine.

Therefore we suggest the intervention of your local distributor or ALFAMACCHINE's Center of Technical Assistance, which has the qualified staff, proper equipment and tools, and who uses original spare parts.

To order the spare parts listed above, follow the instructions listed in the paragraph 1.2

9 DEMOLITION

9.1 DEMOLITION

At the act of demolition it is necessary to separate the parts in plastic material from components. Sometimes they must be sent to different gatherings respecting the current Norms.

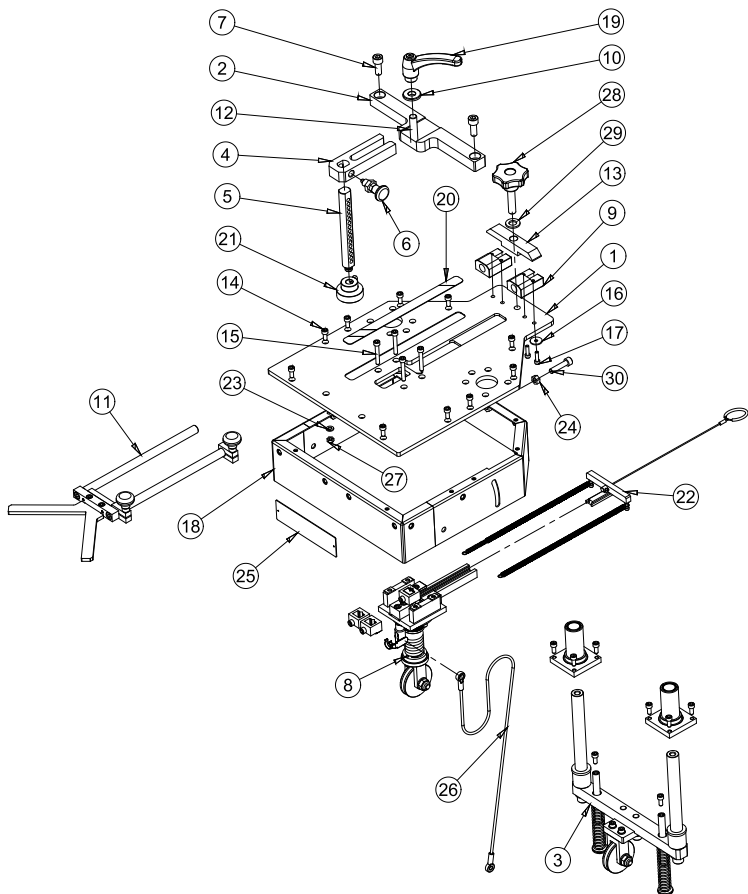
Concerning the machine metallic mass, it is enough to subdivide the steel parts and those of other metals or alloys, for a proper recycling by smelting.

10. ATTACHMENTS

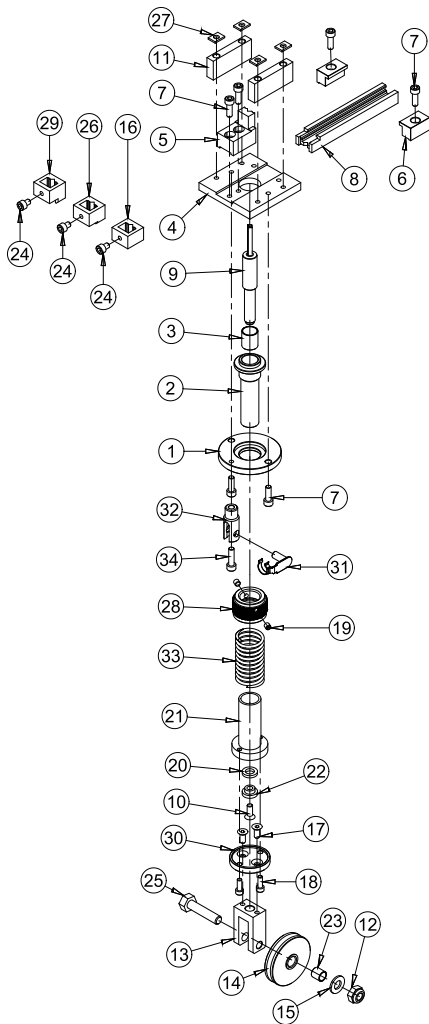
10.1 SCHEMES

You can find here attached the following schemes:

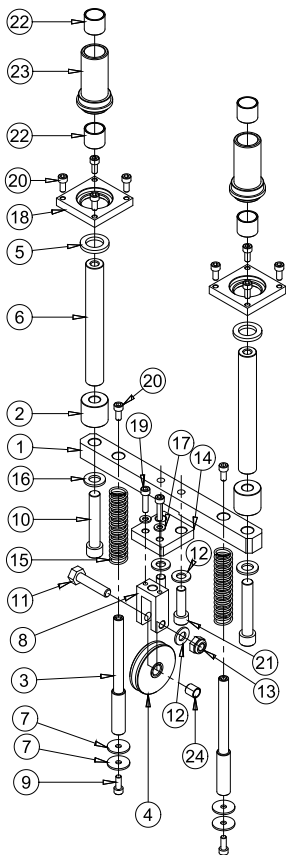
- (A) Mechanic Schemes
- (B) Spare Parts List
- (C) CE conformity declaration FAC SIMILE



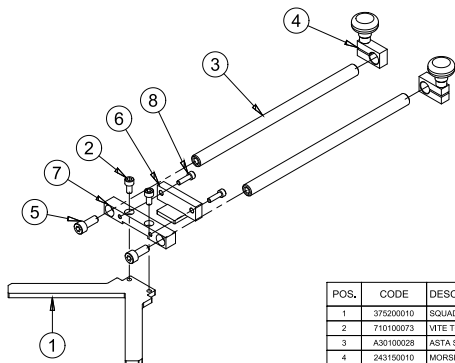
POS.	CODE	DESCRIPTION	Q.TY
1	A30100001	PIANO SUPERIORE A2M	1
2	A30100027	TRAVERSA A2M	1
3	TABLE 3	GRUPPO TRAVERSA E COLONNE	1
4	383600070	SUPPORTO CORTO ASTA BLOCCAGGIO VERTICALE	1
5	334000100	ASTA BLOCCAGGIO VERTICALE PORTA TAMPONE	1
6	753320010	POMELLO A MOLLA M12x1.5 CON PERNO SPINTORE D.6	1
7	710100151	VITE TCEI M10x25 UNI 5931 8,8 Z.B.	2
8	TABLE 2	GRUPPO TESTA	1
9	383900010	SUPPORTO GUIDA ASTA	2
10	336100030	RONDELLA MANIGLIA TRAVERSA	1
11	TABLE 4	GRUPPO SQUADRA	1
12	366210120	GRANO TRAVERSA	1
13	383600040	ARRESTO ASTE DI SCORRIMENTO	1
14	710100074	VITE TCEI M6x14 UNI 5931 8,8 Z.B.	10
15	710100082	VITE TCEI M6x40 UNI 5931 8,8 Z.B.	4
16	718250005	RONDELLA PIANA 5x20 UNI 6593 Z.B.	4
17	710100046	VITE TCEI M5x18 UNI 5931 8,8 Z.B.	4
18	A29000004	CARCASSA A2M 200	1
19	244660010	MANIGLIA PER TRAVERSA	1
20	366710130	RIGA MILLIMETRATA / POLLICI A2M	1
21	244120130	PORTA TAMPONE	1
22	TABLE 5	GRUPPO SPINGIPUNTI	1
23	718100003	RONDELLA PN M6 UNI 6592 6x12,5 ZB	10
24	715650004	DADO M8 MEDIO UNI 5588 6S P.G.ZB	1
25	365211400	TARGHETTA A2M	1
26	A29100008	FUNE AZIONAMENTO	1
27	715650008	DADO AUTOBLOCCANTE M6 BASSO Z.B.	10
28	753320003	VOLANTINO M12X50	1
29	718100006	RONDELLA PN M12 UNI 6592 13x24 ZB	1
30	710100117	VITE TCEI M8x35 UNI 5931 8,8 Z.B.	1



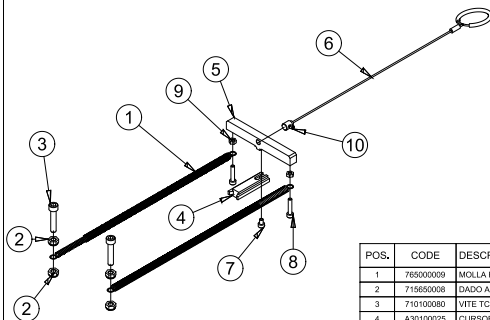
POS.	CODE	DESCRIPTION	Q.TY
1	A30100005	FLANGIA GRUPPO MARTELLETTO	1
2	A30100006	GUIDA MARTELLETTO	1
3	753420008	BOCCOLA ALVEOLATA D116 De18 L20	1
4	A30100007	PIASTRA GRUPPO MARTELLETTO	1
5	384200050	SUPPORTO A L	1
6	383600020	BLOCCETTO FISSAGGIO MAGAZZINO	2
7	710100076	VITE TCEI M6x18 UNI 5931 8.8 Z.B.	6
8	398350031	MAGAZZINO	1
9	298420080	MARTELLETTO	1
10	710200058	VITE TSPEI 6 x 16 UNI 5933 10.9 Z.B.	1
11	A30100010	DISTANZIALE GRUPPO TESTA	2
12	715650007	DADO AUTOBLOCCANTE M10 BASSO	1
13	A30100008	FORCELLA CARRUCOLA	1
14	A30100009	CARRUCOLA	1
15	718100005	RONDELLA D.10 UNI 6992 Z.B.	1
16	394950050	TESTINA H15	1
17	710200068	VITE TSPEI 6 x 14 UNI 5933 10.9	2
18	710100044	VITE TCEI M5x14 UNI 5931 8.8 Z.B.	2
19	714300015	GRANO STEI 6x6 UNI 5923 14.9	2
20	A30100013	RONDELLA SPESORE INTERNO MARTELLETTO	1
21	A30100014	CILINDRO GUIDA MARTELLETTO	1
22	A30100015	RONDELLA CENTRAGGIO MARTELLETTO	1
23	753420005	BOCCOLA ALVEOLATA D110 De12 L12	1
24	710100071	VITE TCEI M6x8 UNI 5931 8.8 Z.B.	3
25	A30100033	PERNO CARRUCOLA	1
26	394950030	TESTINA H10	1
27	381600100	SPESORE IN GOMMA	4
28	A30100012	GHERA SERRAGGIO MARTELLETTO	1
29	394950020	TESTINA H7	1
30	A30100011	GIUNTO FORCELLA MARTELLETTO	1
31	753820001	CLIPS PER FORCELLA M8	1
32	A30100004	FORCELLA ATTACCO CAVO	1
33	765000008	MOLLA FILO 3.3 DE32 L148 SP13	1
34	710100078	VITE TCEI M6x22 UNI 5931 8.8 Z.B.	1



POS.	CODE	DESCRIPTION	Q.TY
1	A30100022	TRAVERSA MOLLE E COLONNE	1
2	A30100020	DISTANZIALE	2
3	A30100021	ASTA MOLLA	2
4	A30100009	CARRUCOLA	1
5	A30100017	RONDELLA DI BATTUTA VULKOLLAN	2
6	A30100016	ASTA BLOCCAGGIO VERTICALE	2
7	716250003	RONDELLA PIANA 6x24 UNI 6593 Z.B.	4
8	A30100008	FORCELLA CARRUCOLA	1
9	710100075	VITE TCEI M6x16 UNI 5931 8.8 Z.B.	2
10	710100191	VITE TCEI M12x70 8.8 UNI5931 Z.B.	2
11	A30100033	PERNO CARRUCOLA	1
12	716100005	RONDELLA D.10 UNI 6592 Z.B.	3
13	715650007	DADO AUTOBLOCCANTE M10 BASSO	1
14	A30100023	SUPPORTO FORCELLA CARRUCOLA	1
15	785000006	MOLLA F2 DE20.5 L147 SP17	2
16	716100006	RONDELLA PN M12 UNI 6592 13x24 ZB	2
17	716100003	RONDELLA PN M6 UNI 6592 6x12.5 ZB	2
18	A30100018	FLANGIA GUIDA ASTA	2
19	710100105	VITE TCEI M6x25 UNI 5931 8.8 Z.B.	2
20	710100074	VITE TCEI M6x14 UNI 5931 8.8 Z.B.	10
21	710100153	VITE TCEI M10x35 UNI 5931 8.8 Z.B.	2
22	753420013	BOCCOLA ALVEOLATA D120 De23 L20	4
23	A30100019	GUIDA ASTA	2
24	753420005	BOCCOLA ALVEOLATA D110 De12 L12	1



POS.	CODE	DESCRIPTION	Q.TY
1	375200010	SQUADRA 90°	1
2	710100073	VITE TCEI M6x12 UNI 5931 8.8 Z.B.	2
3	A30100028	ASTA SCORRIMENTO SQUADRA	2
4	243150010	MORSETTO ASTA SQUADRA M3 COMPLETO	2
5	710100139	VITE TCEI M8x20 UNI 5931 8.8 Z.B.	2
6	A30100029	GUIDA PER SQUADRA	1
7	383900020	SUPPORTO GUIDA ASTE	1
8	710100046	VITE TCEI M5x18 UNI 5931 8.8 Z.B.	2



POS.	CODE	DESCRIPTION	Q.TY
1	765000009	MOLLA FILO 0,85 140 SPIRE MAGAZZINO A2M	2
2	715650008	DADO AUTOBLOCCANTE M6 BASSO Z.B.	4
3	710100080	VITE TCEI M6x30 UNI 5931 8.8 Z.B.	2
4	A30100025	CURSORE MAGAZZINO	1
5	A30100024	SUPPORTO CURSORE MAGAZZINO	1
6	A29100001	CORDICELLA D.1,6 PER SPINGIPUNTI	1
7	710100001	VITE TCEI M4x6 UNI 5931 ZB	1
8	710100008	VITE TCEI M4x20 UNI 5931 8.8 ZB	2
9	715650001	DADO M4 MEDIO UNI 5588 ZB	2
10	714300003	GRANO STEI 4x4 UNI 5923 14.9	1

