Mitre-Mite®

VN Alpha

Instruction Manual

Version E

TW AMP

Technology for Frame Assembly

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Index

1. GENERAL INFORMATION

1.1 PRODUCER

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

TEL 1-800-322-4204	**FAX 1- 800-426-7019**

1.2 ASSISTANCE CENTERS

ITW/AMP is represented in North and South America by a numerous and prepared sales organization. Contact our firm directly to get the name of your local distributor.
For every need regarding Use, Maintenance or Request of Spare Parts, the Customer should call the local authorized service center or directly to ITW/AMP, specifying the machine 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

The ITW/AMP's products are constructed to have a long life and are tested one by one.
If, in spite of this, if 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 part

The driver blade is tested for about 1.000.000 working cycles.
The Warranty does not include the sending of technical staff.
The repair interventions will be performed at your local distributor or ITW/AMP's plants. The shipping costs will be entirely charged to the Customer.
The warranty does not cover the damages due to an inappropriate use of the machine or not corresponding to the instructions described in this handbook.
Warranty decays in case of unauthorized modifications or because of accidental damages or tampering performed by unqualified personnel.
The warranty is also void in case you use V-nails(R) different from the original ITW/AMP ones.
To take advantage of warranty services is necessary, at the moment you receive your machine, to fill out the warranty card and send it back as soon as possible to ITW/AMP.
The warranty will be valid only after ITW/AMP receives the warranty card & records it.

1.5 PRE-ARRANGEMENTS CHARGED TO THE CUSTOMER

It is the customer's duty, on times agreed with the producer, to execute what is indicated in our documentation.
Things normally charged to the customer are:
- Premises predisposition, included building works and/ or canalization eventually requested
- Pneumatic supplyng of compressed air (see the paragraph 4.5)

1.6 HANDBOOK STRUCTURE

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

1.6.1 Object and contents

This 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 read carefully this handbook. In case of doubt about the correct interpretation of these instructions, ask ITW/AMP or your local distributor to have the problem explained.

1.6.2 Users

This handbook is made for the operators and technicians authorized to perform the machine maintenance.
The operators can not execute operations reserved to the maintaince staff or the qualified technicians.
The producer does not answer to damages derived from not-observing this prohibition.

1.6.3 Preservation

The instruction handbook must be kept very closed to the machine, into a special container protected from liquids and whatever could compromise its legibility

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 sitituation and/or anomalies, you can be requested to perform a certain mechanical adjustment.

2. MACHINE DESCRIPTION

2.1 WORKING PRINCIPLE

The benchtop Frame Assembling Machine Mitre Mite VN Alpha has been manufactured to assemble any kind of frame. The Mitre Mite VN Alpha , 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(R).

It uses V-Nails (R) with the "pulling power" effect in different sizes.

2.2 MAIN COMPONENTS

The main components constituting the machine are:

- Pneumatic clamping device to allow a proper locking of the mouldings to insert several V-nails(R) in different positions
- Magnetic pressure pads of several types, at quick replacement, to have the proper clamping of any profile
- Dual functions foot operating pedal for separate control of clamping and nail insertion
- Pneumatic opening of the V-nail(R) magazine for a very quick reloading
- Nail heads sizes 7, 10 and 15 mm.

2.3 MACHINE STRUCTURE

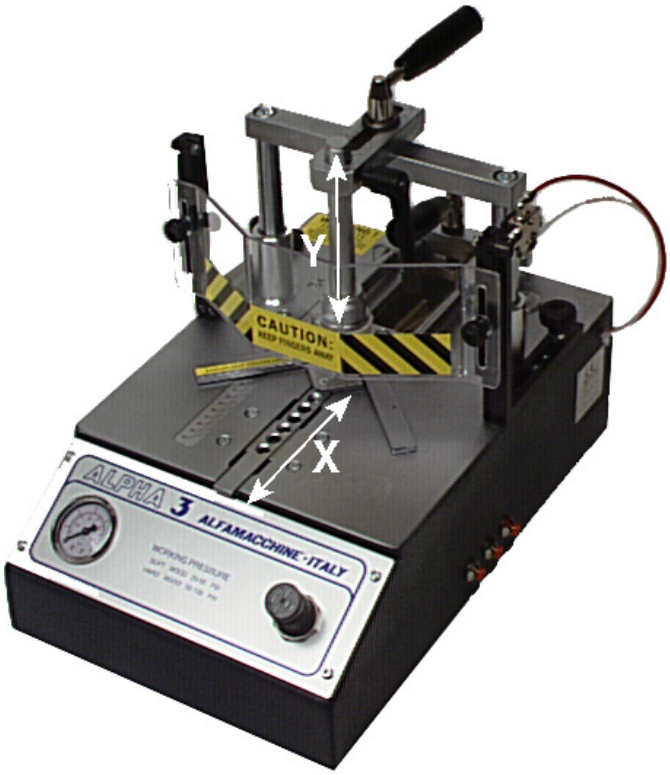
The movement directions during the machine working are the followings:

- X AXIS

Movement of horizontal clamp

- Y AXIS

Movement of vertical clamp



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 41° to 104° F, with a humidity level not higher than 50% at 104° F or 90% at 68° F.

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 visibility and can not create dangerous light reflections.

2.7 VIBRATIONS

In standard conditions conformed to the indication of machine proper utilization the vibrations do not create dangerous conditions**.** The average quadratic weighed level, according to the acceleration frequency to which arms are exposed does not exceed 2,5 m/s2.

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 power 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 understanding of the dangers 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 make reference for any eventual contact with your distributor for Technical Assistance.

TABLE 2. 9 A

Frames thickness	min.-max.	.24”- 3.15”
Frames width	min.-max.	.24”- 2.76”
V-nails magazine capacity		n. 220
V-nails size		mm 7-10-15
V-nails size on request		mm 3-5-12
Pneumatic Supplying		40-100 PSI
Weight		about 62 LB
Height of working bench		5.1”
Overall dimensions		17.1”x13”x11.8”

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-nails head replacement
- N.1 Brass rod magnet to remove V-nails

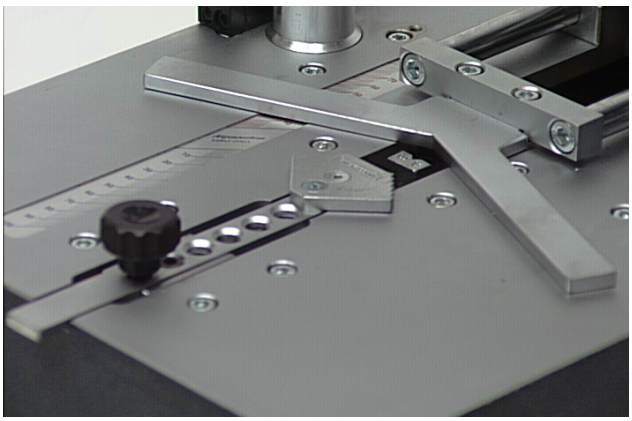
2.10.2 Upgrading and implementing of mechanical parts

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

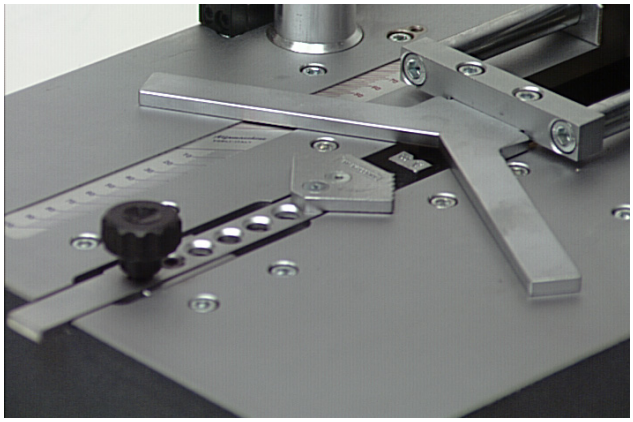
Technical upgrades on the machine model, if any, will be such that they can be installed at any time without requiring any substantial modifications to the machine structure.

2.10.3 Optional accessories

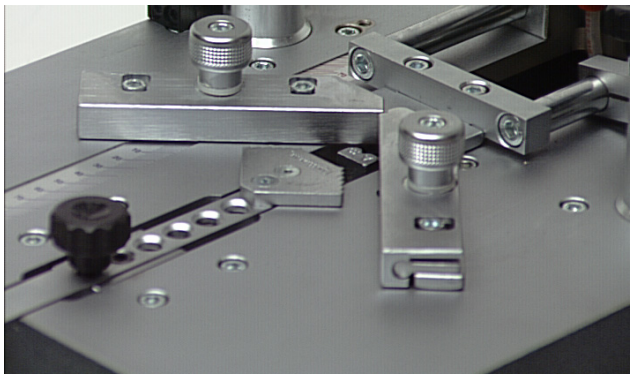
- Soft clamping of the moulding that allows to clamp the moulding at low pressure
- Floor stand
- Adjustable tilting fences (see fig. 3)
- Wooden working bench extension
- Metallic working bench extension
- Special fences for octagons (fig.1)
- Special fences for hexagons (fig.2)
- Round and square pressure pads in rubber
- V-nails claw heads size 3-5-12 mm.



Picture 1



Picture 2



Picture 3

2.10.4 Customized optional accessories

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

2.11 ELECTROMAGNETIC AMBIENT

The Machine is designed to operate properly in an industrial electromagnetic ambient without altering it being an exclusively pneumatic machine.

3. SAFETY

3.1 GENERAL WARNINGS

The operator must pay the maximum attention to the information written in this Handbook, expressively about proper precautions for Safety listed in this chapter.
It is imperative for the operator to follow the warnings listed below:

- Keep the machine and the working clean & ordered
- Provide appropriate containers to stock the pieces you will be working with
- Use the Machine only in a normal psycho-physical conditions
- Wear adequate clothing to avoid obstacles and/or dangerous entanglements to/from the machine
- Wear the individual protection gears prescribed by the instruction handbook, regarding the effected operations
- Do not remove or alter the warning plates and adhesive signs
- Do not remove or elude the Machine Safety Systems
- Keep the fingers away from the working area
- Disconnect the air pressure supply during any maintenance intervention
- Keep your foot off of the pedal during machine maintenance

3.2 SCHEDULED USE

The Machine is designed and built to assemble mitred corners.
The machine is projected for manual use only (under operator's control).

3.3 INADVISABLE USE

The machine can not be used:

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

3.4 DANGEROUS AREAS

The area where the frames are assembled is defined as the "working area"
The dangerous areas of the machine, include the movable parts and the surrounding zones

Figure 3.4.A- Working area and dangerous zones

3.5 PROTECTION DEVICES

The machine is equipped with adequate protections for persons exposed to the risks due to the transmission mobile elements,taking part in working (driver blade, horizontal clamp, vertical clamp).

3.6 STOP FUNCTIONS

The machine stop functions are the following:

- Fast clutch fitting stop (Category 0).
- Foot pedal Stop (Category 1).

STOP CATEGORY 0
It is obtained by disconnecting the fast clutch fitting from the air feed system (uncontrolled stop).
STOP CATEGORY 1
Controlled stop is obtained by lifting the foot from the pneumatic pedal, which does not allow the v-nails(R) to fire or the clamps to work.

3.7 SAFE WORKING PROCEDURES

☞	The machine is projected and realized to eliminate any risk connected with its use. The user is requested to achieve an adequate training to be instructed by your local distributor or ITW/AMP's technicians.

The other risks related with using the machine are:
- Finger crushing in the vertical clamp working area
- Finger crushing in the frontal clamp working area

It is necessary to carefully follow the following instructions:

1. Keep the fingers away from frontal and vertical clamp working areas
2. Disconnect the air pressure during any maintenance interventions
3. Keep the foot away from the pedal during machine maintenance

3.8 RESIDUAL RISKS

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

- Risk of finger crushing in the working areas of the vertical and frontal clamps

3.9 PLATES

The warning plates carrying out safety functions & can not be removed, covered or damaged.
To see the location of the plates or adhesive signs , see Fig.10.2-D
Table 3.8 A- Types of plates

Plate concerning machine characteristics

Adhesive sign concerning the finger danger zone

Adhesive sign concerning the behaviour to be kept during the working cycle

Adhesive sign concerning the behaviour to be kept during the working cycle

4. INSTALLATION

4.1 SHIPPING AND HANDLING

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

- All the protections and guard devices must be properly closed and locked.
- The machine has to be shipped like 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

Figure 4.1A – machine handling indications

Machine total weight: about 62 LB

☞	The machine lifting must be performed by 2 operators.

Any damaging 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 STORAGE

In case of long inactivity, the machine must be stored with precautions 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

4.3 PRELIMINARY ARRANGEMENTS

In order to install the machine it is necessary to prepare a working area adequate to the machines dimension & the length of moulding you will be working with.
To fulfill the characteristics of precision and steadiness, the bench frame assembling machines must be positioned on a solid and leveled plane able to sustain the weight of the machine. The bench must be studied and prepared by the customer and/or qualified staff.

4.4 UNPACKING

The benchtop machine is shipped packed into an appropriate carton and protected by polystyrene parts.
Remove the external packing and save it for a future use. Check for any casual shipping damage and report it immediately to the carrier. Shipping damages or any other defects must be reported to ***ITW AMP*** or your local distributor, within 3 days from receipt of the machine.

4.5 CONNECTIONS

To avoid any problems while setting up your machine, it is recommended that you follow the instructions below.

4.5.1 Pneumatic connection

The machine is controlled by a dual action footpedal.
The 3 pipes the pedal must inserted into the 3 fittings located on machine's right side in the following sequence (fi. 4-5):

Upper connection	Red pipe into the red fitting (external side)
Central connection	Black pipe into the black fitting (central fitting)
Lower connection	Transparent pipe into the 3rd fitting (user side)

Picture 4

Picture 5

Use the supplied fast clutch fitting to connect the air compressor system. You could use also another fitting suitable with your pneumatic system (see fig. 6).

Picture 6

☞	We recommend that you install a filter/ lubricator on the compressed air system to obtain clean and lubricated air. Use only silicone lubricating oil for pneumatic systems. The use of inadequate oil could damage the valves.

Once you have connected the machine with the pneumatic system, check the proper operation of the foot pedal in the following way: Move the vertical bar to its full up position (see paragraph 4.8.2b).

- Pressing the footpedal half way down activates the horizontal clamp, vertical clamp and the fence locking
- The foot pedal pressed full down activates the V-nail(R) driver

☞	Check the foot pedal operating when the V-nail(R) magazine is closed. The foot pedal control is deactivated when the V-

4.6 PRELIMINARY CONTROLS

The Machine 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.

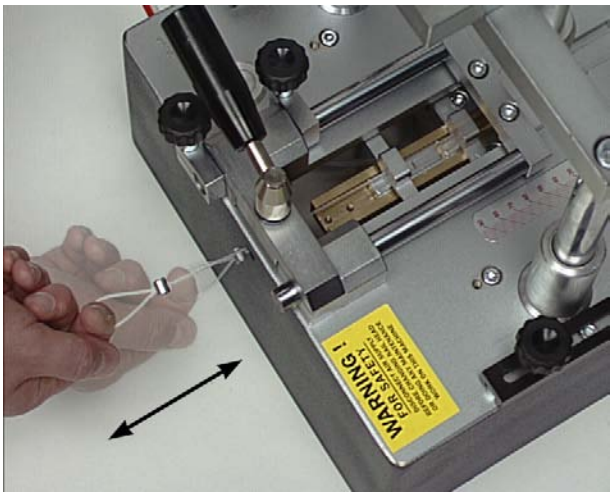
- Verify that the machine has not been damaged during the assembly steps.
- Verify with extreme care, the pipes integrity

4.7 MACHINE ARRANGEMENT

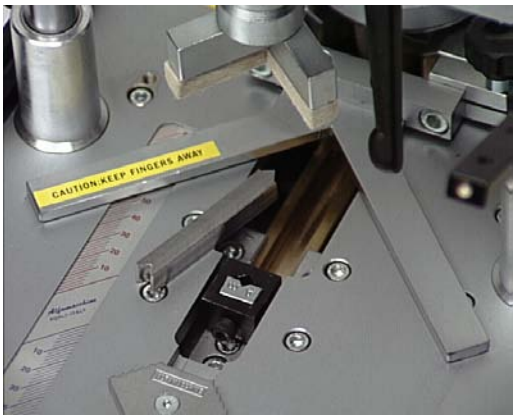
4.7.1 V-Nails(R) magazine loading

To load the V-nails(R) magazine proceed as follows:

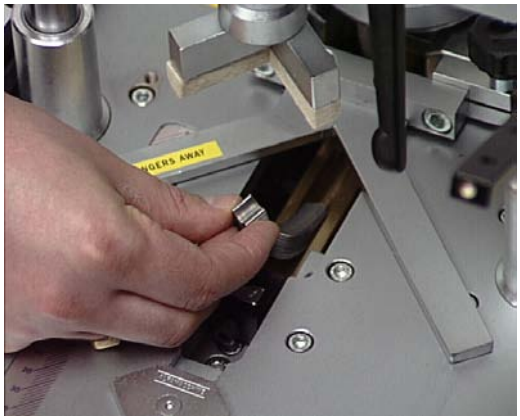
- Move the clawpusher backwards by pulling backwards on the control wire (see fig. 7).
- Insert one or more V-nail(R) strips, making sure that the sharpened edge of the V-nails(R) (glue side) faces up and that they are loaded with the V of the nails pointing in the direction indicated in the figures 8 and 9. Make sure that you have the correct type of claw head for the nails that you are using.
- Move the claw pusher forward by gently releasing the control wire (see fig.7)



Picture 7



Picture 8



Picture 9

4.7.2 V-nail(R) clawhead replacement to change V-nail(R) size

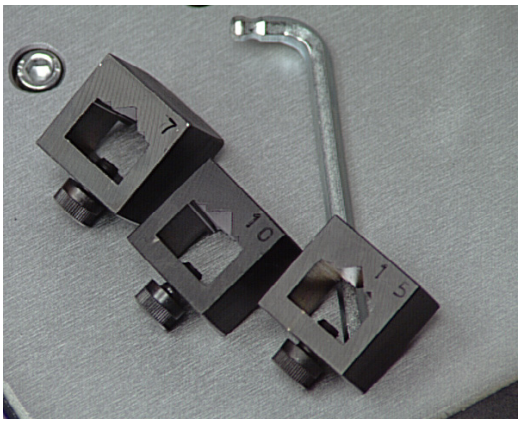
The V-nail(R) guide head must be changed each time you use V-nails(R) of different sizes.

Proceed as follows to replace it:

- Loosen the locking screw of the V-nail(R) guide head using the proper 5 mm Allen wrench (the screw is on the opposite side from the V-nail(R) magazine(See fig. 10)
- Remove the V-nail(R) guide head
- Move the clawpusher backwards by pulling backwards on the control wire. This will permit access to the V-nail(R) magazine (see fig. 8).
- Remove all the V-nails(R) that are still in the magazine (using the proper brass magnet, if necessary) (see fig.11).
- Insert the new V-nail(R) stick(of desired height) into the magazine
- Move the clawpusher forward by geltly releasing the control wire. (see figure 7).
- Insert the new size V-nail guide head to match the V-nails to be used (see fig. 12).
- Tighten the locking screw of the V-nail guide head (see fig.10).

Picture 10

Picture 11



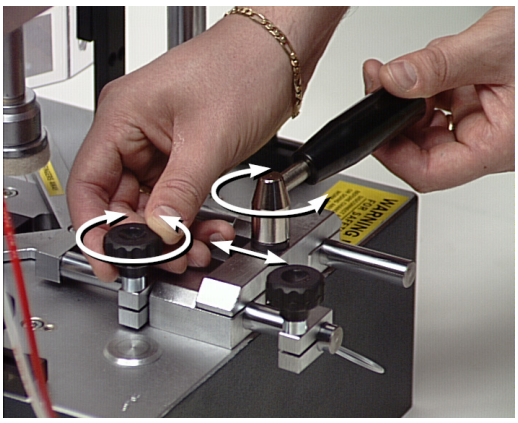
Picture 12

4.8 ADJUSTMENTS

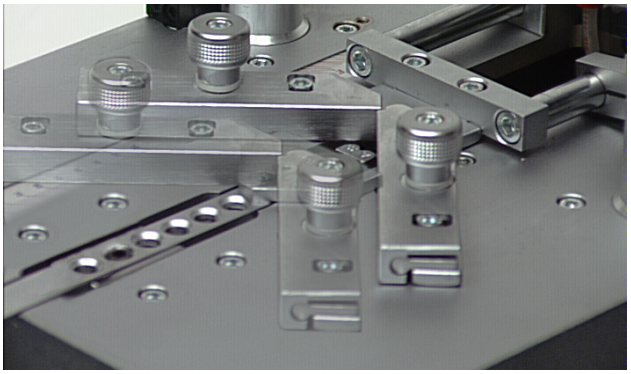
The machine has been completely tested & checked in ITW/AMP's plants before its shipment. All the operator has to do is perform the following adjustments:

4.8.1 V-nail(R) inserting positions adjustment

To properly position the mouldings to be assembled, the Mitre Mite VN Alpha 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(R) in the moulding.
The fence stops (backward and forward) can be set with precision by means of locking clamps. (see fig. 13).
The operator can easily use the machine to insert V-nails with extreme precision into 2 different positions (fig. 14).



Picture 13



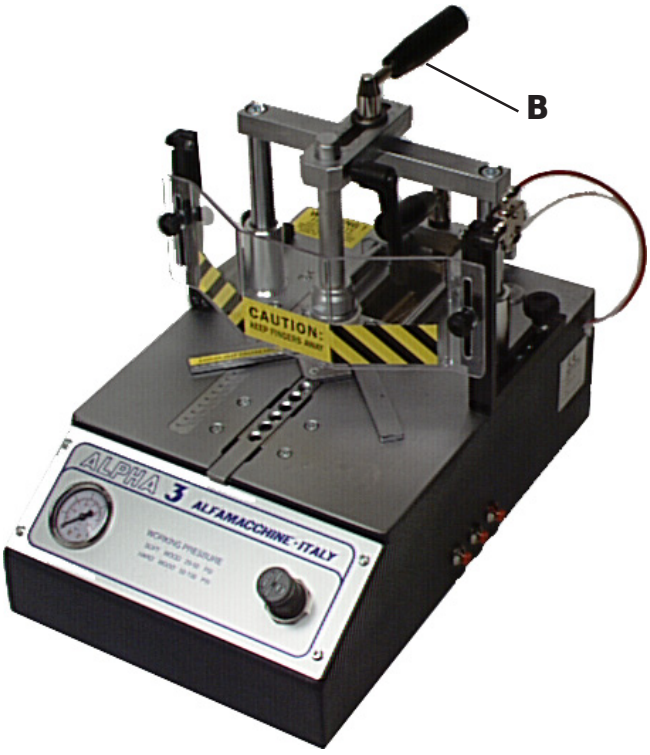
Picture 14

4.8.2 Vertical clamp adjustment

The vertical clamp can be adjusted in height and position. Proceed as follows to adjust them:

4.8.2a Vertical clamp position adjustment

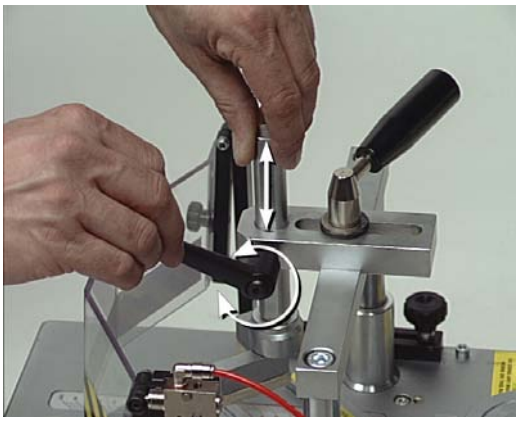
- Position the mouldings to be assembled on the working bench
- Select the pressure pad suitable with the profile of the moulding to be assembled and put it on the vertical bar
- Loosen the handle (see fig.15) that locks the clamp, which holds the vertical bar. This will permit its movement forwards or backwards. You will need to position the pressure pad directly over where the v-nails(R) will be inserted.
- Tighten the handle once you have reached the proper position



Picture 15

4.8.2b Vertical clamp height adjustment

- Loosen the side handle (see fig. 16) and adjust the pressure pad height over the frame. It is recommended that you set the height between 5 and 8 mm above the moulding. This will help to avoid any accidental fingers crushing.
- Tighten the handle once you have reached the proper position.
- Lower the vertical clamp by pressing half way down on the foot pedal. This will verify that the mouldings to be assembled are properly clamped.
- Press all the way down on the foot pedal to insert the V-nail(R).



Picture 16

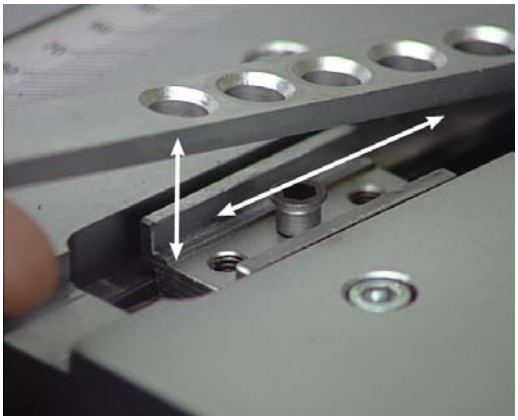
4.8.3 Frontal clamp adjustment

The Frontal Clamp (horizontal clamp) has a series of holes in the flat bar (see fig.17).
Lift the bar upwards to take it out of its initial position. You will now be able to move it forwards and backwards.
To lock the bar it is sufficient to insert it into the proper peg located in the middle of the guide channel.

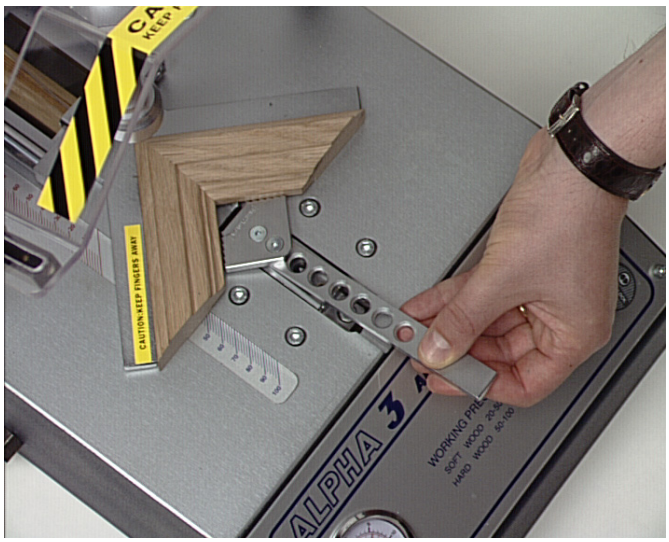
Proceed as follows to position the frontal Clamp correctly:

1. Remove the bar from the peg by lifting it upwards by about 10-15 mm. Move it forward until it touches the moulding to be assembled (see fig.18).

2. Lower the bar into the next available hole & over the peg.



Picture 17



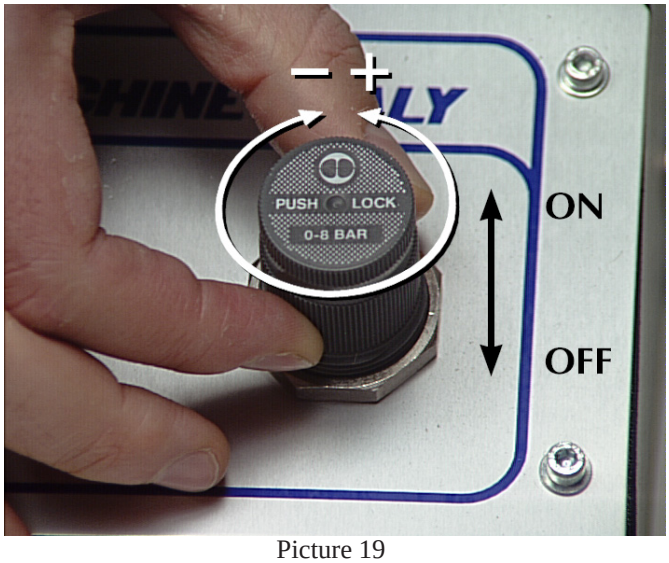
Picture 18

☞	In case of continued use without needing to remove the frontal clamp from its position, it is possible to fix it into the peg using the proper screw. When shipping the machine, it is advisable to fix the bar using the supplied knob.

4.8.4 Working pressure adjustment

The working pressure must be adjusted to the hardness of the mouldings to be assembled.
The pressure regulation allows you to change the clamping pressure.
Too high of a working pressure may cause a bad assembly junction, & on small-size frames the moulding can be crushed.
Too low of a working pressure may cause an incomplete insertion of the V-nail(R) into the frame.
The working pressure is adjusted by means of the regulator on the panel near the pressure gauge (see fig. 19).
Proceed as follows to adjust the working pressure:

1. Pull up on the regulator cap about 3- 4 mm to unlock it.
2. Turn it clockwise to increase the pressure and counter-clockwise to decrease it.
3. Push the regulator cap back down, to lock it into position



Picture 19

☞	**DO NOT ADJUST** the pressure if the machine is not connected to the air supply.

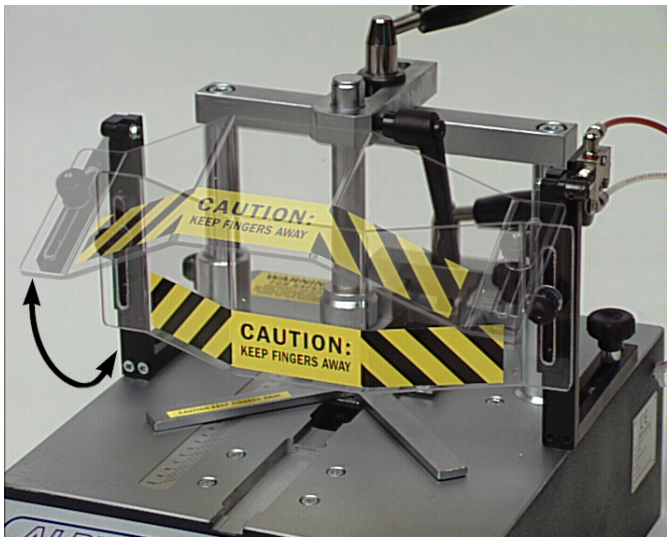
The suggested pressures are:

Soft woods	**(samba,.....)**	**30-40 PSI**
Medium	**(ramin,.....)**	**40-60 PSI**
Very hard woods	**(oak)**	**60-80 PSI**

The values listed above apply to 7 and 10 mm high V-nails(R).
Increase the pressure by 10 % for 15 mm high V-nails(R).
When stacking 2 or more V-nails(R), increase the working pressure by 10 to 15 %.

4.8.5 Protective shield adjustment

You can order a protective shield made of transparent plastic material (see fig. 20).



Picture 20

Proceed as follows to adjust the protection shield:

1. Loosen the 2 knobs which hold the shield in place and lift or lower it to a height of about 6-8 mm above the mouldings to be assembled;
2. Tighten the knobs to lock the protection shield.

Even if the protective shield is properly adjusted, it is necessary to follow the instructions listed below:

6 Keep the fingers away from the frontal and vertical clamp working areas.
7 Disconnect the air supply during any maintenance intervention.
8 Keep your foot off of the pedal while adjusting the machine.

☞	Opening the protection shield causes the foot pedal to be deactivated.

4.9 CHECKING OPERATIONS TO BE EFFECTED BEFORE WORKING START

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

The mouldings to be assembled are properly positioned on the working bench.
The magazine is loaded with the type of V-nails(R) suitable with the mouldings to be assembled
The adjustment of vertical and horizontal clamps are correct (chapter 4.8.2 and 4.8.3).
The working pressure is adequate to the wood hardness (see chapter 4.8.4).
Pressing halfway down on the pedal both the frontal and vertical clamps hold the frame properly.
The protective shield is properly positioned (see chapter 4.8.5)

Press the pedal all the way down to insert the V-nail(R).

☞	If you want to insert 2 or more V-nails(R), one upon the other in the same position, you must release the pedal halfway and then press it full down to insert the second V-nail(R).

5. FUNCTIONING

5.1 OPERATORS

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

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

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

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

5.2 FUNCTIONING DESCRIPTION

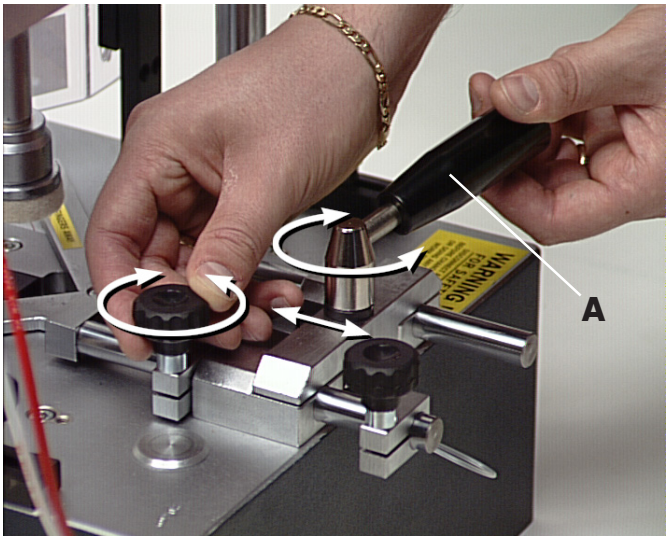
The machine has only one possible operating mode:

- Manual operation by using the pneumatic footpedal.

Press the foot pedal half way down to clamp the moulding.
Press the foot pedal full down to drive the V-nail(R).

To assemble a corner, you must operate as follows:

1 Set the inserting positions, using the fence locking clamps
2 Place the mouldings on the working bench. Move the fence & the moulding to the first inserting position.
3 Adjust the vertical clamp height and position.
4 Adjust the frontal clamp position.
5 Verify and adjust the proper working pressure according to the mouldings to be assembled.
6. lock the fence into the first position (see fig. 5.2)
7. Press halfway down on the pneumatic pedal to verify that the mouldings are properly clamped.
8. Press the pedal all the way down to insert the V-nail(R). 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 full down to insert the second V-nail and so on.
9. Remove your foot from the foot pedal.
10. Loosen the fence locking handle (see fig. 5.2).
11. Shift the mouldings and the fence to the next position and repeat the steps 6,7 and 8.



Fiura 5.2

5.3 TIPS FOR PERFECT JUNCTIONS

a) V-nail(R) types

In order to allow the machine to make excellent quality junctions using different materials, it has been necessary to manufacture different V-nail(R) types for different uses (see attachment D).

V-nails(R) can be classified into three different groups:

for soft woods and soft plastic	Suggested V-nail(R) code	SW
for medium woods	Suggested V-nail(R) code	MW
for hard woods	Suggested V-nails(R) code	HW

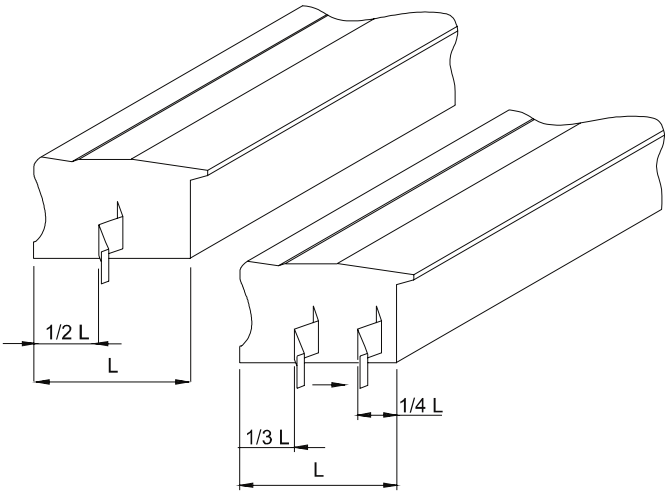
b) Assembling positions

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

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

When you want to make the junction using only one V-nail(R), the most suitable position is in the middle of the moulding (see fig. 21)

In case you want to insert 2 or more V-nails(R) 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.



Picture 21

5.4 MACHINE STOP

The machine can only work by pressing the pneumatic foot pedal. To stop the machine remove your foot from the pedal. It is possible also to disconnect the fast clutch fitting from the compressed air.

5.5 MACHINE REINSTATEMENT

The machine reinstatement is effected by pressing the pneumatic foot pedal.

5.6 PUTTING OUT OF SERVICE

In case on long inactivity periods it is necessary to disconnect the fast clutch fitting from pneumatic system.

6. MAINTENANCE

6.1 STATE OF MAINTENANCE

The maintenance operations must be performed with the machine in the conditions described at the “state of the machine” table (tab 6.6.A and 6.7.A)

6.2 MACHINE ISOLATION

Before performing any type of maintenance or repair , it is necessary to isolate the machine from it’s supplying sources, by making the following operations:

1) Disconnect the fast clutch fitting from the pneumatic system.

Once the maintenance is finished the & before you reconnect the pneumatic supply, ascertain that all components and any pneumatic connections are properly reinstalled.

6.3 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 highly visible position.
- Do not use solvents or flammable materials.
- 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, restore and properly place the protections and shields that were removed or opened.

6.4 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(R) head and from the upper part of the driver blade;
- Always keep the V-nail(R) magazine clean & without residues.
- Remove any residue from the V-nails(R) guide “L” shaped support.

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

	Before performing any cleaning intervention, the operator must disconnect the pneumatic system.

6.5 LUBRICATION

Use preferably CASTROL MAGNA GC 32 or equivalent oil(ITW/AMP part number T-064).
Furthermore, we recommend to lubricate the driver blade every 200 working hours.

☞	Unsuitable lubricants may cause to the valves seal problems (seals may become too large) and consequent jamming of them.

6.6 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 personnel.
The scheduled ordinary maintenance includes overhauls, checks and interventions that, to prevent stops and breakdowns, keep the system working properly.

- Lubrication state of the machine
- Wear and tear parts state

TAB 6.6 A

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

6.7 EXTRAORDINARY MAINTENANCE

Listed below are the operations that need the intervention of ITW/AMP or your local distributor’s Technical Assistance (see the paragraph 1.2). You can also use qualified staff authorized by the Producer
The extraordinary maintenance includes interventions to be performed in exceptional cases:

- Breakage
- Revisions

TAB. 6.7 A

MAINTENANCE	DESCRIPTION	MACHINE STATE
Valves and Reducers	Suggested replacement every 6/8 million of V-nails(R)++ shot	Isolation for maintenance
Frontal and vertical clamping gaskets	Replacement in case of leak of air	Isolation for maintenance

7. DIAGNOSTIC

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 TROUBLESHOOTING

TABLE 7. 2 - A

TROUBLE	POSSIBLE CAUSE	REMEDY
Pressing the foot pedal the V-nails(R) ejection is irregular	Insufficient working pressure	Check that the minimum value indicated from main pressure gauge is higher than 3 Bar
Pressing the foot pedal the V-nails(R) ejection is irregular	V-nails(R) wrongly positioned into the magazine	- Check that the V-nails(R) sharpened side (glue side) faces up - Check that V-nails (R) V vertex is pointing toward machine's external side
Pressing the foot pedal the V-nails(R) ejection is irregular	Guide channels damaged or jammed	- Check that the guide channels are not dirty or jammed
Pressing the foot pedal the V-nails(R) ejection is irregular	Claw pusher has insufficient thrust	Check to see if the feed springs are broken, if so replace them
Pressing the foot pedal the V-nails(R) ejection is irregular	Claw head not suitable with V-nails(R) size	Check that the number engraved on the v-nail(R) claw head match up the V-nails(R) size
Pressing the foot pedal the V-nails(R) ejection is irregular	Faulty V-nails(R)	- Replace the V-nails(R) - Use shorter sticks of V-nails(R)
Pressing the foot pedal the V-nails(R) ejection is irregular	Insufficient working pressure	Check that the air pressure coming out from the compressor is at least 3 Bars.
Pressing the foot pedal the V-nails(R) ejection is irregular	Opened V-nails(R) magazine	Close the magazine by means of the control wire
Pressing the foot pedal the V-nails(R) ejection is irregular	Faulty valves	- Replace the foot pedal valve - Replace the control valves
Pressing the foot pedal for several times the machine's working that was correct at the beginning becomes irregular later	Jammed valves because of surplus of oil or condensation	-Remove the surplus of oil and condensation from the valves by disconnecting one by one the control pipes to remove the contamination
Pressing the foot pedal the working pressure indicated on the pressure gauge deeply decreases	Faulty pressure regulator	-Replace the regulator
Pressing the foot pedal the working pressure indicated on the pressure gauge deeply decreases	Feeding pipe too long or of inadequate diameter	Replace the piping with a new one of bigger diameter

TROUBLE	POSSIBLE CAUSE	REMEDY
Pressing the foot pedal the machine works properly, but once the pedal is released you can note a certain delay in re-positioning of driver blade and/or vertical clamp cylinders	Faulty or jammed valves	- Remove the surplus of oil and/or condensation - Replace the foot pedal valve - Replace the faulty control valves
Wishing to insert several V-nails(R) one upon the other in the same point, they do not stack properly or tilt during their insertion	Unsuitable V-nails(R)	Replace the V-nails(R) with suitable ones
Wishing to insert several V-nails(R) one upon the other in the same point, they do not stack properly or tilt during their insertion	Poor frames clamping (the frame moves during the V-nail(R) insertion)	- Check and in case replace the vertical and frontal clamping positions - Increase the clamp pressure - Replace the pressure pad with a suitable one
Wishing to insert several V-nails(R) one upon the other in the same point, they do not stack properly or tilt during their insertion	Wore and torn driver blade	Replace the driver blade
Wishing to insert several V-nails(R) one upon the other in the same point, they do not stack properly or tilt during their insertion	Jammed driver blade	Clean the driver blade upper part removing any material jamming the upper profile

7.3 REQUEST OF ASSISTANCE

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

Web Site: http://www.itwamp.com
E- Mail: itwamp@paslode.com
Phone: 1-800-322-4204
FAX: 1-800-426-7019

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 keep a minimum and sufficient set of. This will help gaurantee the shortest possible downtime.

TABLE 8.1 - A

COMPONENT
• V-NAILS DRIVER BLADE • V-NAILS CLAW HEADS “L” • SHAPED SUPPORT (V-NAILS GUIDE) • VALVES-REDUCERS-REGULATORS • VERTICAL AND HORIZONTAL CLAMPING GASKETS

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 ITW/AMP’s center of technical assistance, which has access to qualified staff, proper equipment and tools, and who uses original spare parts.
To order the spare parts listed above, send by fax/letter/Email the following data:

- Model of the Machine
- Code of mechanical exploded drawing
- Reference & code number of spare part or group indicated on the mechanical drawing
- Code number of single or group spare part

9 DEMOLITION

9.1 DEMOLITION

At the act of demolition it is necessary to separate the parts in plastic material from electric components, that must be send to differentiate gatherings respecting the current Norms.
Concerning the machine metallic mass, it is enough the subdivision between the steel parts and those of other metals or alloys, for a proper recycling by smelting.

10. ATTACHMENTS

10.1 DECLARATIONS

You can find here attached the following declarations

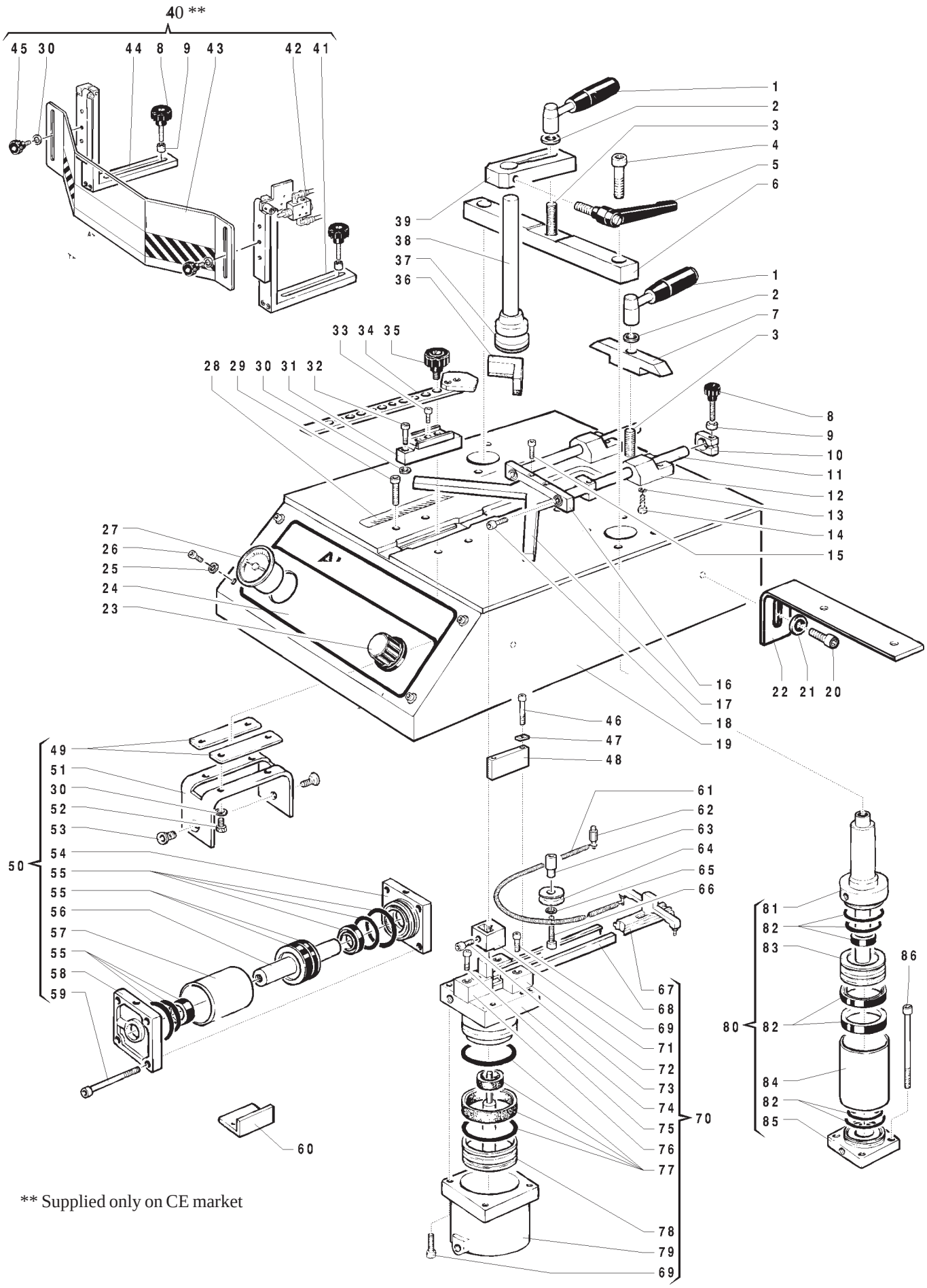
- Declaration of conformity to the Norm 89/392/CEE

10.2 SCHEMES

You can find here attached the following schemes:

- (A) Mechanical Schemes
- (B) Pneumatic Scheme
- (C) Plates location
- (D) Sharpening Table

SCHEMES A - Mechanic Schemes (code: DWG n° 006.3.100)

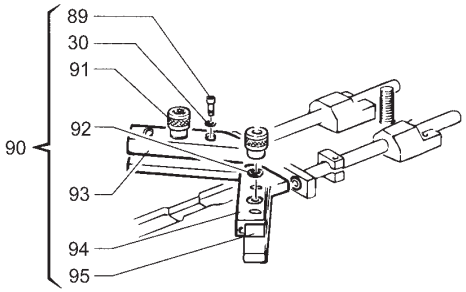


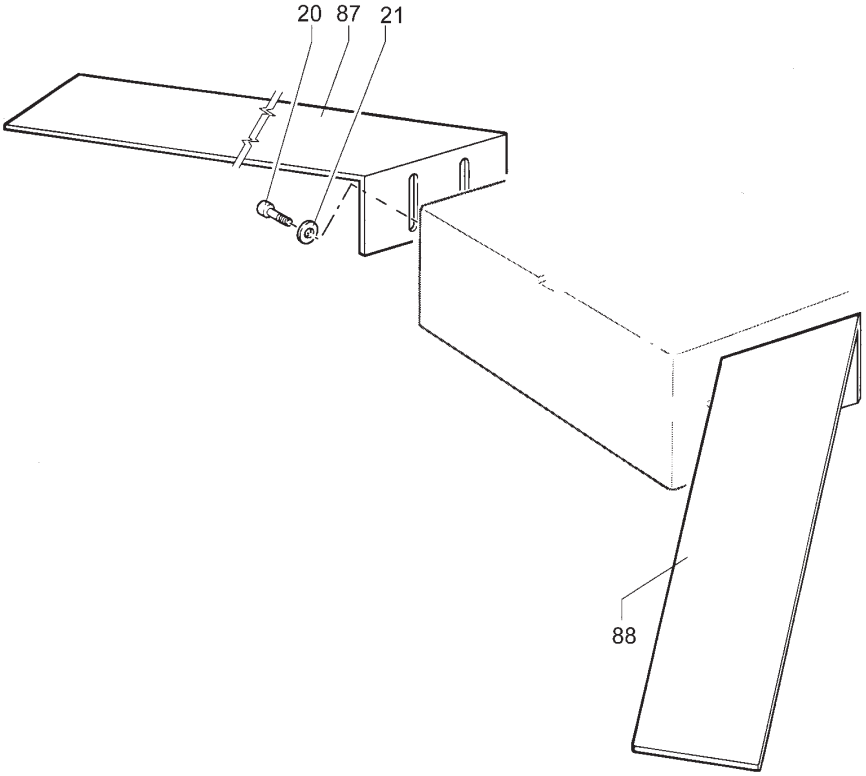
** Supplied only on CE market

Mitre-Mite VN Alpha

Optional

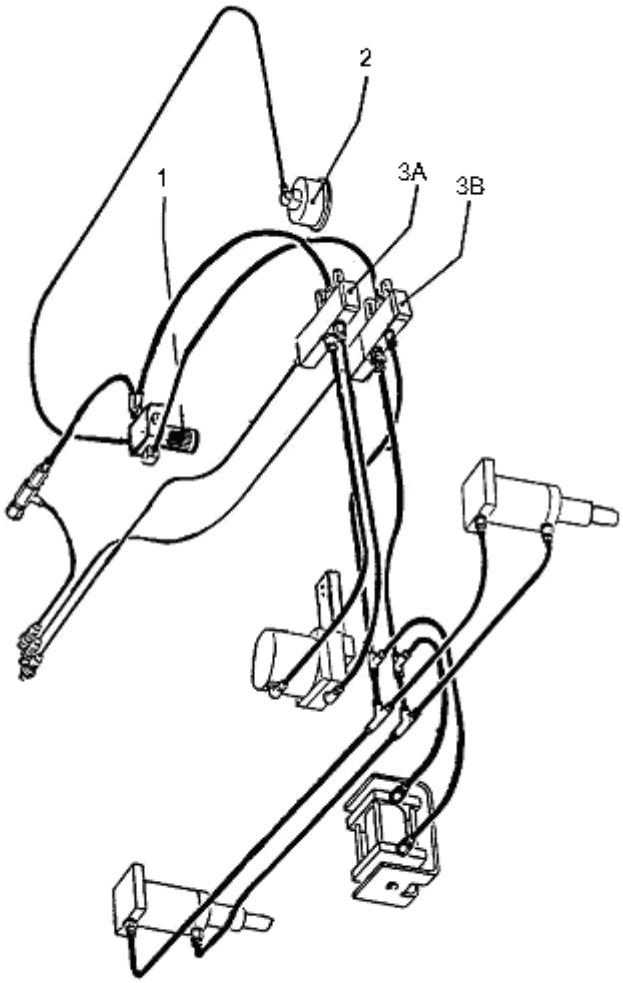
DWG Nr. 006.3.100





Ref.	Code Number	Description
1	244660010	Handle
2	336100030	Washer
3	714300041	Headless screw
4	710100151	Screw
5	243170010	Handle
6	376400010	Support
7	383600040	Support
8	753320002	Knob
9	336100020	Spacer
10	393150010	Clamp
11	334000020	Slide
12	383900010	Support
13	718100002	Washer
14	710100045	Screw
15	710100072	Screw
16	383900020	Support
17	375200010	Fence
18	710100112	Screw
19	211250040	Casing
20	701000115	Screw
21	718100004	Washer
22	294200010	Support
23	735630002	Pressure regulator
24	365210320	Plate
25	718100001	Washer
26	710100003	Screw
27	734230004	Pressure gauge
28	366710050	Inch rule
29	710100076	Screw
30	718100003	Washer
31	392750010	Support
32	710100074	Screw
33	366210030	Special screw
34	242170010	Horizontal clamp
35	753320001	Knob
36	242230020	Square pressure plate
37	242230010	Round pressure plate
38	244120110	Rod
39	383600030	Support
40	248950020	Protection unit
41	241300020	Support
42	732540003	Valve
43	398950020	Protection
44	241300010	Support
45	753320005	Knob
46	710100086	Screw
47	381600100	Spacer
48	381300080	Support
49	371200010	Slide
50	225120010	Complete cylinder
51	384400010	Support
52	710600002	Screw
53	710200081	Screw
54	352200030	Head
55	298390050	Gasket kit
56	331000030	Piston
57	352200020	Head
58	333500020	Cylinder
59	710100087	Screw
60	384200020	Bracket
61	765000018	Spring
62	393850010	Spring support
63	337500220	Spacer
64	337000070	Pulley
65	718100003	Washer
66	710100075	Screw
67	395450040	Nail pusher
68	398350050	Nail magazine
69	710100093	Screw
70	224240150	Complete driver assy.
71	394950020	7mm nailhead
71	394950030	10mm nailhead
71	394950050	15mm nailhead
72	383600020	Block
73	710100070	Screw
74	352200060	Head
75	710100079	Screw
76	384200050	L block
77	298390040	Gasket kit
78	298420040	Piston and driver blade
79	352200050	Cylinder
80	225220010	Complete cylinder
81	352400020	Head
82	298390070	Gasket kit
83	331000020	Piston
84	333500030	Cylinder
85	352200040	Bottom
86	710100088	Screw
87	391650511	Extension
88	391650501	Extension
89	710100073	Screw
90	243160020	Complete tilt fence
91	336300040	Knob
92	337500040	Washer
93	386200040	Left tilt fence
94	386200030	Right tilt fence

SCHEMES B - Pneumatic Scheme



Ref.	*Description*
1	Pressure Regulator
2	Pressure Gauge
3A	Valve 228.52.11.1
3B	Valve 228.52.11.1

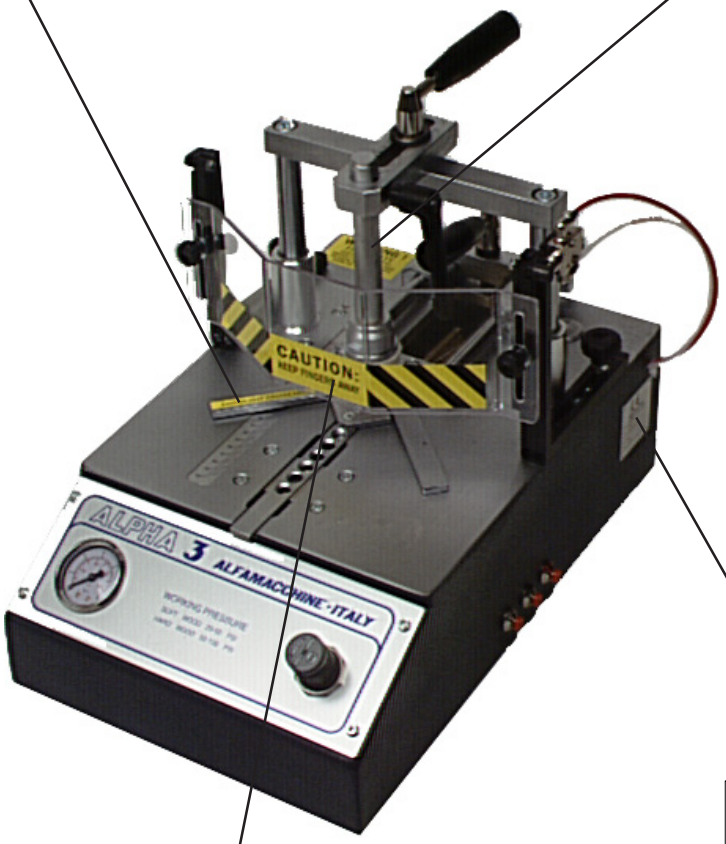
SCHEMES C - plates location

CAUTION: KEEP THE FINGERS AWAY

CAUTION!

FOR YOUR SECURITY

DISCONNECT THE AIR SUPPLY BEFORE REPLACING THE V-NAIL CLAW HEAD OR ANY MAINTENANCE OPERATION



CE

Alfamacchine

Via dell'Artigiano , 12 Forli ITALY

Tipo ALPHA 3

Anno di costruzione 1998

Matricola __ 26158 ___

Peso 22 Kg.

Alimentazione pneumatica 5-7 BAR

CAUTION:

KEEP FINGERS AWAY

SCHEMES D - SHARPENING TABLE

	SOFT WOOD			HARD WOOD		
	A	**B**	**C**	**D**	**E**	**F**
Height mm	Very soft wood	Soft wood	Averaged soft wood	Averaged hard wood	Hard wood	Very hard wood
H 3* mm	HPT	HPT	HPT	HPT	HPT	HPT
H 5* mm	HPT	HPT	HPT	HPT	HPT	HPT
H 7 mm	SPT	SPT	HPT	HPT	HPT	HPT
H 10 mm	SPT	SPT	HPT	HPT	HPT	HPT
H 12 mm	SPT	SPT	HPT	HPT	HPT	HPT
H 15 mm	SPT	SPT	HPT	HPT	HPT	HPT

SPT — Suitable for soft wood such as: Thailand and Asian South-East wood, Cedar, Pine, Bass, Banak, Obeche, Poplar
Other materials: Cellular, Polystyrene, Vertical Grain MDF

HPT — Suitable for soft wood such as: Thailand and Asian South-East wood, Cedar, Pine, Bass, Banak, Obeche, Poplar , polystyrene, pvc

HPT — Suitable for soft wood such as: Oak, Ash, Hickory, Pecan, Maple, Cherry, Ramin
Other materials: Horizontal grain MDF

HDF — Suitable for horizontal Grain MDF & HDF

In order to stack 2 or more V-nails per junction, use V-nails coded **HPT OR HDF**