

Mitre-Mite®

VN 42

Instruction Manual

Version I



TW AMP

Technology for Frame Assembly

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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 is the acquired technological know-how, developed during years of researches in strict touch with manufacturing department and international commercialization the best warranty that Alfamacchine can grant to its customers.

TEL 1-800-322-4204

FAX 1-800-426-7019

1.2 ASSISTANCE CENTERS

ITW/AMP is represented both in North and South America by a numerous and prepared sales organization. Contact our firm to get the number of your local distributor.

For every need regarding Use, Maintenance or Request of Spare Parts, the Customer should call the authorized service centers 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

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 ITW/AMP 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 ITW/AMP ones.

To take advantage of warranty services, it is necessary at the moment you receive your machine to completely fill out the warranty card and send it back as soon as possible to ITW/AMP.

The warranty will be valid after the ITW/AMP 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:

- Premises predisposition, included building works and/or canalization eventually requested
- Pneumatic supply of compressed air (see the paragraph 4.9.6)

1.6 HANDBOOK STRUCTURE

The customer must pay an 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, besides the proper use of the machine, He would 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 these instructions. In case you are in doubt about the correct interpretation of these instructions, call your distributor & have them explanation it to you.

1.6.2 Users

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







The operators can not execute operations reserved to the maintenance staff or to 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 & in a special container protecting it 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	Requests you 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 strange working and/or anomalies, it can be requested to make a certain mechanical adjustment

2. MACHINE DESCRIPTION

2.1 WORKING PRINCIPLE

The Mitre-Mite VN 42 is a pneumatic frame assembling machine particularly suitable with large sized frames. The frame assembling machine Miter Mite VN 42 uses V-nails with “pulling power” in different sizes.

2.2 MAIN COMPONENTS

The main components constituting the machine are:

- Frontal clamping device to have a perfect joint.
- Position brake to easily insert intermediate V-nails in any profile
- Adjustable tilting fences.
- Floor stand
- Dual function foot pedal for separate control of clamping and nail insertion
- 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 the 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 admitted temperatures go from 41°F to 104°F (, with an humidity 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 situations.

The average quadratic weighed level, according to the acceleration frequency to which arms are exposed does not exceed 2,5 m/s².

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 an existing 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 bldg, etc...). Furthermore, the allowed exposure levels could change according to several different Countries. At any rate, the information provided, will allow the Machine Operator to achieve a better evaluation of the danger and risks he is submitted to.

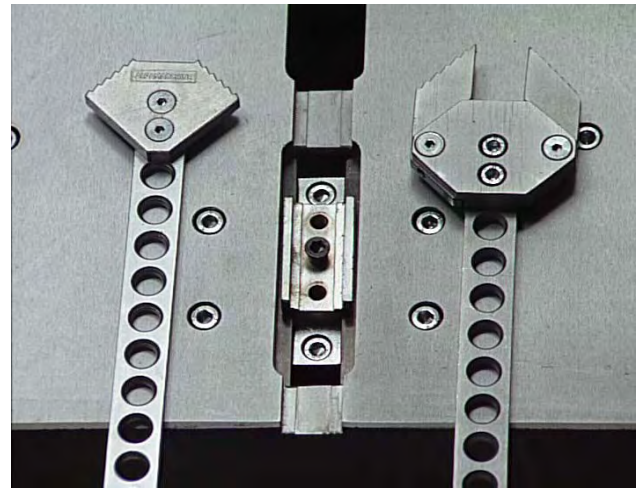


The indicated noise levels are emission ones measured in standard conditions of use. In case of any machine modification, the above mentioned levels could be changed and should be checked on the same machine.

2.9 TECHNICAL DATA

We have listed below the Machine data and technical characteristics. You can use it for reference for any eventual contact with the Producer for Technical Assistance.

-Frames thickness	min-max	1/4" - 2.75"
-Frames width	min-max	3/8" - 4.75"
-Max distance among V-nails		4.75"
-V-nail magazine capacity		n. 230
-V-nails size		7, 10, 15 mm.
-V-nails size on request		3, 5, 12 mm.
-Pneumatic supplying		50-100 PSI
-Weight		about 132lb
-Height of working bench		adjustable
-Overall dimensions		20"x17"x49"



Picture 1

2.10 STANDARD EQUIPMENT

The equipment listed below are the standard ones.

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 in rubber
- 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

The machine has been manufactured 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's structure.

2.10.3 Optional accessories

- Wooden working bench extension
- Metallic working bench extension
- V-nails claw heads size 3-5-12 mm.
- Spring loaded front clamp (see fig.1)

2.10.4 Customized optional accessories

Thanks to its versatility this machine can be 'custom-made' to meet our users' requirements. You can have your local machine shop make accessories that can make frame assembling easier: e.x. special fences for peculiar shaped 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 pay the maximum attention to the information written in this Handbook. It is very important you read about the proper precautions for Safety listed in this chapter.

It is indispensable for the operator to follow the warnings listed below:

- Keep the machine and the working premises clean & ordered
- Provide appropriate containers to stock the moulding you will be working with.
- Use the Machine only in normal psycho physical condition
- Wear adequate clothing to avoid obstacles and/or dangerous entanglements to/from the machine
- Wear the individual protection equipment described by the instructions handbook.
- 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 separated from the pedal during Machine maintenance

3.2 SCHEDULED USE

The Machine is designed and built to assemble frames.

The machine is projected for manual use only (under operator control).

3.3 INADVISABLE USE

The machine can not be used for:

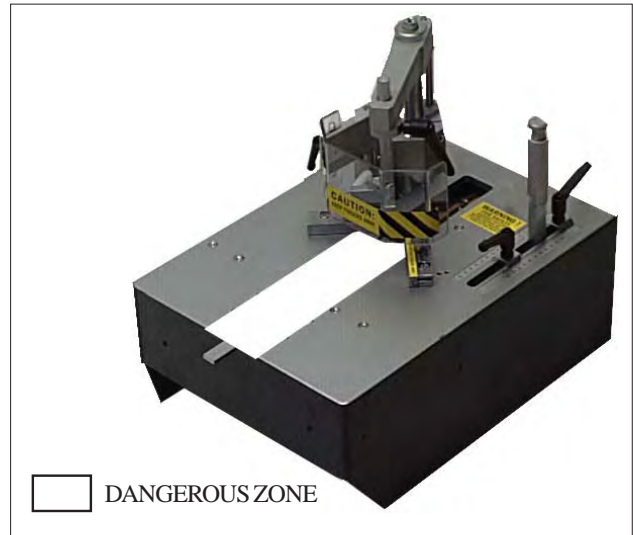
- For uses different from those listed in paragraph 3.2
- In an explosive or aggressive atmosphere, where there is a high density of dust or oily substances suspended in the air
- In a flammable atmosphere
- Outside in all weather severity
- For working with materials not suitable with the machine's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

3.4 DANGEROUS AREAS

The area where the frames are assembled is defined as the "working area".

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

Picture 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 of using this machine, taking into consideration the working parts. (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 feeding system (uncontrolled stop).

STOP CATEGORY 1

Controlled stop obtained by lifting the foot from the pneumatic pedal, which will not allow the v-nails to fire.

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 this 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 instructions listed below:

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

3.8 RESIDUAL RISKS

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

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

3.9 PLATES

The warning plates carry out safety functions can not be removed, covered or damaged.

To see the plates or adhesive signs location, consult the Fig.10.2-D

Table 3.8 A- Types of plates



Plate concerning the machine's 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

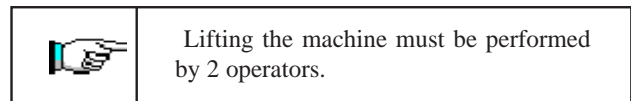
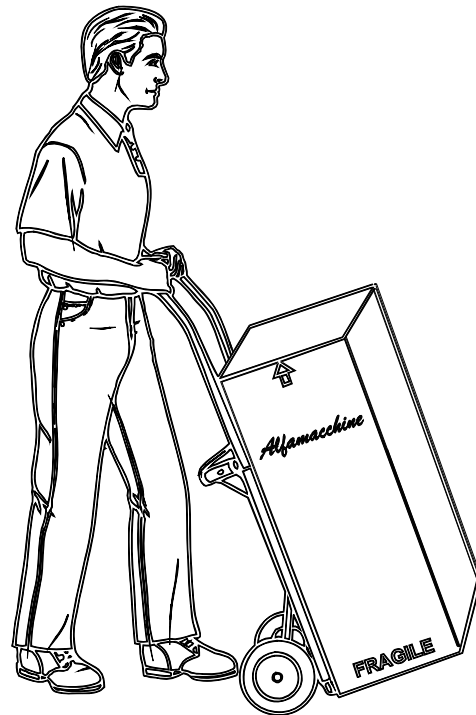
4.1 SHIPPING AND HANDLING

The shipment must be performed by 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 clamped.
- The machine has to be shipped like it is positioned for installation.
- Before 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

Picture 4.1A – machine handling indications

Machine total weight: about 70 Kilos



Any damage of the machine caused during its shipment or handling is not covered under warranty.

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

4.2 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 storing the machine near corrosive materials
- Lubricate the parts which are not painted

4.3 PRELIMINARY ARRANGEMENTS

To install the machine it is necessary to prepare a working area adequate to the machine's dimensions and the length of moulding you will be using.

4.4 UNPACKING

The machine is shipped packed into an appropriate carton and protected with polystyrene parts.

Remove the external packing and save it for future uses. Check for any casual shipping damage and report them immediately. Shipping damages or any other defects must be reported to **ITW/AMP** within 3 days from the time you receive the machine.

4.5 MACHINE POSITIONING

Position the machine in its working area. Adjust the height of the machine by using the 4 screws. raise it up until you reach the desired height (see fig. 2).



Picture 2

4.6 CONNECTIONS

To avoid any problems while setting up the machine, we suggest you follow the instructions listed below.

4.6.1 Pneumatic connection

The Mitre-Mite VN 42 works by compressed air and is controlled by a foot pedal & a thumb-button that allows the activation of the frontal clamp, vertical clamp and V-nail firing.

Attach your airline to the machine by using the provided fast clutch fitting or a different fast clutch fitting suitable with your pneumatic system.

Screw the fitting (see fig. 3-4) into the air filter located on the right side of the floor stand.

Take the pressure gauge out from the floorstand and screw it onto the air filter. Then connect your air supply line to the machine.



It is advisable that you use silicone oil for pneumatic systems. Avoid generic lubricating oil. The use of inappropriate oil could damage the valves.



Picture 3



Picture 4

Once the machine has been connected to the pneumatic system, verify the function of the foot pedal and the pushbutton control lever.

The proper functioning of the foot pedal is:

- When the foot pedal is pressed half way down it activates the frontal clamp

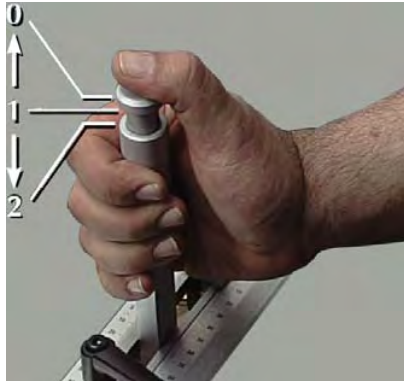
The manual hand lever has a dual position pushbutton (see fig.5) which allows:

- Pressing half way down activates the vertical clamp and sets the positioning brake
- Pressing full down activates the V-nail driver (2nd position)

Note: To stack 2 or more V-nails it is necessary to release the button halfway & then press it full down again. To stack more than 2 v-nails repeat the steps above.



Picture 6



Picture 5



Picture 7

4.7 PRELIMINARY CONTROLS

Setup of 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.

4.8 MACHINE ARRANGEMENT

4.8.1 V-nails magazine loading

To load the V-nail magazine proceed as follows:

- Move the clawpusher backwards by means of the control wire (see picture 6). This will allow you access to the V-nail magazine.
- 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 like indicated in the pictures 7 and 8. Check that the V-nail size is suitable with the type of claw head mounted.
- Move the clawpusher forward by releasing the control wire.



Picture 8

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 using the proper 5 mm Allen wrench, (See picture 9)
- Remove the V-nail guide head (see picture 10)
- Move the clawpusher backwards by means of the control wire. (see picture 8).
- Remove all the V-nails that are still in the magazine. Use the brass magnet if necessary) (see picture 11)
- Insert the new V-nail strip (of desired height) into the magazine.
- Move the clawpusher forward by releasing the control wire (see picture 8).
- Insert the new size V-nail guide head to match the V-nails you will be using (see pictures 12-14).
- Tighten the locking screw of the V-nail guide head (see picture 9).



Picture 9



Picture 10



Picture 11



Picture 12

4.9 ADJUSTMENTS

Because the machine was completely tested and checked at ITW/AMP before its shipment, the operator has only to perform the following adjustments:

4.9.1 Setting stops for V-nails positioning

The working stroke of the driver assembly is adjusted by 2 stop handles positioned on a measurement gauge (see picture 13).

The stop located by the hand lever on the operators side, refers to the V-nails rear position. The other stop handle refers to the V-nails front position.

The carriage with the driver blade is positioned by moving the handle from the back position to the front one.

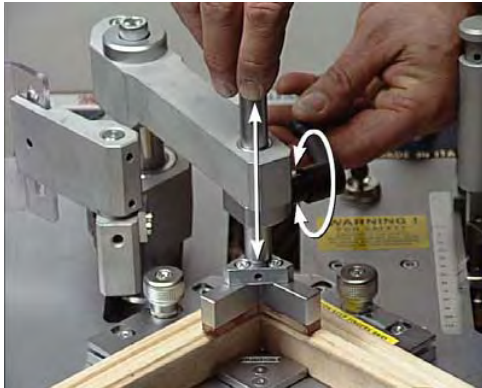


Picture 13

4.9.2 Vertical clamp adjustment

The vertical clamp height can be adjusted by the side-handle. Proceed as follows to properly position the vertical clamp:

- Loosen the side clamp (see picture 14) by using the handle and adjust the pressure pad height over the frame. It is advisable to adjust the height between 5 and 8 mm above the moulding to avoid any accidental fingers crushing.
- Tighten the handle once you have reached the proper position.
- Activate the vertical clamp by pressing halfway down on the foot pedal and then press the control button or pressing full down on the footpedal.
- Check that the mouldings to be assembled are properly clamped.



Picture 14

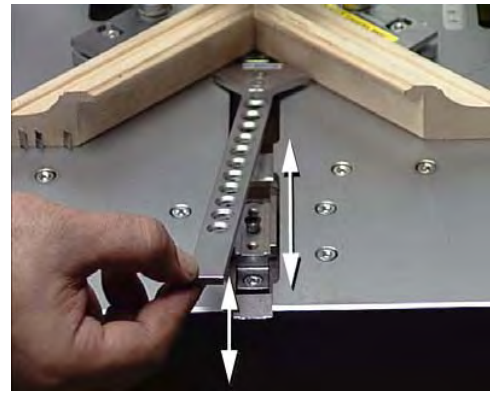
4.9.3 Horizontal clamp adjustment

The Frontal Clamp (horizontal clamp) has a series of holes in the flat bar, (see Picture 15) that lock into a peg in the front channel. Lift the bar to take it out of its initial position and make it move forward and backward.

To lock the bar it is sufficient to insert it into the proper peg located in the center of the guide channel.

Proceed as follows to position the Horizontal Clamp correctly:

1. Remove the bar from the peg (lifting it by about 10-15 mm) and move it forward until it touches the mouldings to be assembled.
2. Back the bar off until it drops into the next available hole.



Picture 15



TAKE CARE: In case of continued use without needing to remove the bar from its position, it is possible to fix it into the peg using the proper 6mm screw. During machine transport, it is advisable to lock the bar using the supplied knob.

4.9.4 Fences adjustment

The Mitre-Mite VN 42 is equipped with a fence composed of two separate parts.

Each part of the fence (right and left) is equipped with a knob that allows it to tilt a few degrees.

The use of this fence is suggested for working frames with irregularities or small round parts on the external side.

If after the frontal clamping is engaged, the mitre of the frame is not perfect, the tilting fence can compensate such a fault.

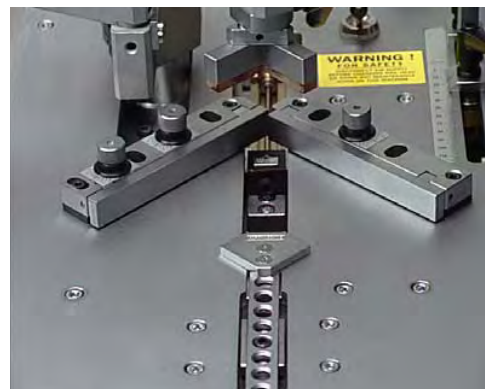
The Mitre-Mite VN 42 can be used for 90°(4 sided frames), 120°(6 sided frames) or 135° (8 sided frames), by setting the two fence supports properly(see pictures 16-17-18).

To modify the position of the two fence supports, proceed as follows:

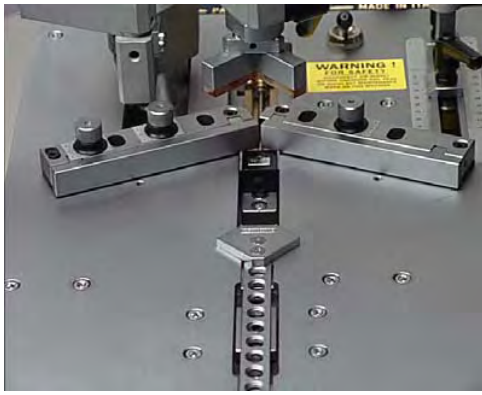
- Remove the external screw by using a 5 mm Allen wrench.
- Loosen the internal screw and shift the fence until it reaches the holes located on the working bench.

The exact position of the fence supports can be obtained with the help of a special template, which was shipped with your machine.

Make sure that the 120° or 135° angle formed by the two supports is exactly centered on the internal vertex of V-nails claw head.



Picture 16



Picture 17



Picture 18

4.9.5 Protective shield adjustment


The machine can be ordered with a protective shield (see fig. 19) made of transparent plastic material.

Proceed as follows to adjust the protection shield:

- 1 Position the mouldings to be assembled on the working bench
- 2 Loosen the handle which locks the protection shield and lift or lower it so it is about 6-8 mm from the mouldings to be assembled.
- 3 Tighten the handle to lock the protection shield.



Picture 19

	Opening the protection shield causes the control pedal to be deactivated.
-------------------------------------------------------------------------------------	---------------------------------------------------------------------------

4.9.6 Working pressure adjustment

The working pressure must be adjusted, depending upon the hardness of the mouldings to be assembled.

Adjusting the regulator allows you to change the clamping pressure.


Too high of a working pressure can cause a poor junction and on small-size frames the moulding could be crushed.

Too low of a working pressure can cause an incomplete insertion of the V-nail into the frame.

The working pressure is adjusted by means of the regulator on the panel near the pressure gauge (see picture 20).

Proceed as follows to adjust the working pressure:

1. Pull up on the regulator cap by about 3-4 mm to the unlocked position
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

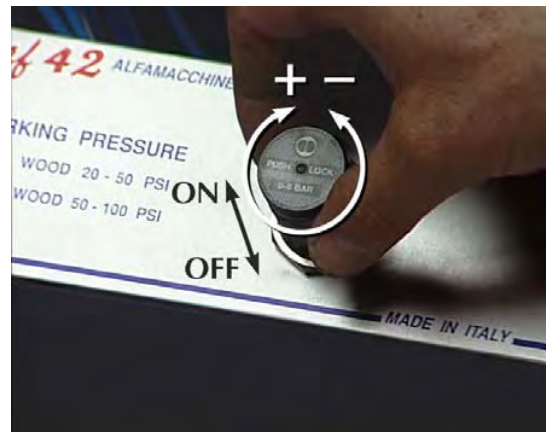
	DO NOT ADJUST the pressure if the machine is not power supplied.
-----------------------------------------------------------------------------------	-------------------------------------------------------------------------

The suggested pressures are:

Soft woods	(samba,.....)	40-50 PSI
Medium	(ramin,.....)	50-70 PSI
Very hard woods	(oak)	70-90 PSI

The above listed values apply to 7 and 10 mm high V-nails. Increase the pressure by 10 % for 15 mm high V-nails.

When stacking 2 or more V-nails, increase the working pressure by 10% to 15 %.



Picture 20

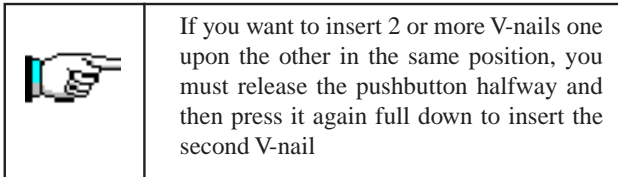
4.10 CHECKING OPERATIONS TO BE EFFECTED BEFORE WORKING START

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 suitable with the mouldings to be assembled
- The adjustment of vertical and horizontal clamps are correct (chapter 4.9.2 and 4.9.3)

Note: To improve the clamping of highly shaped profiles, very large or very hard moulding it is possible to order a felt pressure pad & a magnetic hold down rod. Sometimes this helps provide better clamping.

- The protective shield is properly positioned (see chapter 4.9.5)
- The working pressure is adequate to the wood hardness (see chapter 4.9.6)



5. FUNCTIONING

5.1 OPERATORS

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

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

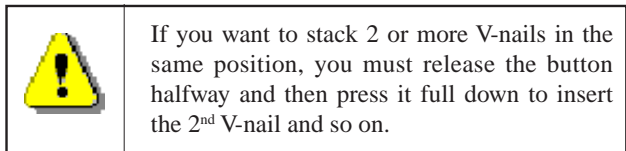
- General and technical culture sufficient to comprehend the handbook contents and properly understand the drawings and schemes.
- Knowledge of main sanitary, technological and anti-accidental norms.
- Overall knowledge of the line and plant where the machine is installed.
- Specific experience in assembling 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

To make a proper junction, the operator must proceed as follows:

- 1 Position the mouldings to be assembled on the machine's working bench.
- 2 Set the limit stops.
- 3 Press the foot pedal half way down to activate the frontal clamp.
- 4 Shift the control lever to the 1st inserting point.
- 5 Press the pushbutton halfway down (or the foot pedal full down) to activate the vertical clamp.
- 6 Press the pushbutton full down to insert the V-nail.



- 7 Release the pushbutton (or the foot pedal) half way to rearm the driver blade and to release the position brake
- 8 Shift the control lever to the next inserting point.
- 9 Repeat steps 4, 5, and 6 as described above.

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 (see attachment D).

V-nails can be classified in three different groups:

for soft woods and soft plastic	Suggested V-nails code	SPT
for medium woods	Suggested V-nails code	HPT
for hard woods	Suggested V-nails code	HPT

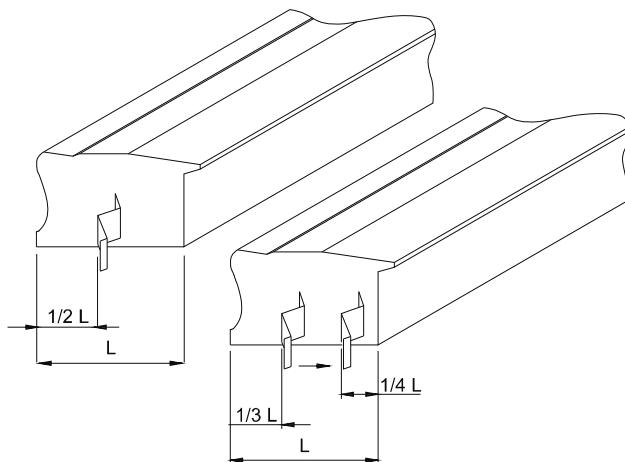
b) Assembling positions

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 10 mm.

When you want to make the junction using only one V-nail, 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 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, it is enough to lift off of the footpedal.

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 “state of the machine” in the tables 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 supply sources, making the following operations:

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

Once you have finished the intervention & before reconnecting the pneumatic supply, check to see that all components and any pneumatic connections are properly reinstalled.

6.3 SPECIAL PRECAUTIONS

During the maintenance or repair operations we suggest you proceed as follows:

- Before starting any operation, place a sign “machine under maintenance” in a well visible position on the machine.
- 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.
- Disconnect the air supply line.
- Once all the operations are finished, restore and replace any protections or shields 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 head and from the upper part of the driver blade;
- Always keep the V-nails magazine clean & without residues.
- Remove any residue from the V-nail guide “L” shaped support.


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

	<p>Before performing any cleaning intervention, the operator must disconnect the pneumatic system.</p>
-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

6.5 LUBRICATION

Use ITW AMP Code Number T064 or equivalent oil

Furthermore, we recommend you lubricate the driver blade every 200 working hours.

	<p>Unsuitable lubricants may cause valve seal problems, (seals may become too large) and consequent Valve jamming could occur.</p>
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6.6 ORDINARY MAINTENANCE

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

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

The scheduled ordinary maintenance includes overhauls, checks and interventions that will help prevent stops and breakdowns.

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

TAB 6.6 A

MAINTENANCE	DESCRIPTION	MACHINE STATE
V-nail driver blade	Replacement every 1.000.000 V-nails shot	Isolation for maintenance
Movable parts lubrication	Lubricate the driver blade every 200 working hours	Isolation for maintenance
V-nails clawheads	Replacement every 5.000.000 V-nails shot	Isolation for maintenance
“L” shaped supports (V-nails guide)	Replacement every 5.000.000 V-nails 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).

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 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-nail ejection is irregular	Insufficient working pressure	Check that the minimum value indicated from main regulator is higher than 3 Bar
Pressing the foot pedal the V-nail ejection is irregular	V-nails positioned wrong into the magazine	<ul style="list-style-type: none"> - Check that the V-nails sharpened side (glue side) faces up - Check that V-nails V vertex is pointing toward machine's external side
Pressing the foot pedal the V-nail ejection is irregular	Guide channels damaged or jammed	- Check that the guide channels are not dirty or jammed
Pressing the foot pedal the V-nail ejection is irregular	Clawpusher has insufficient thrust	Check that the pressure on the regulator feeding the clawpusher cylinder is at least 2 Bar. If necessary, increase it by 10%.
Pressing the foot pedal the V-nail ejection is irregular	Claw head not suitable with V-nails size	Check that the number engraved on the v-nail clawhead matches up with the V-nails size
Pressing the foot pedal the V-nail ejection is irregular	Faulty V-nails	<ul style="list-style-type: none"> - Replace the V-nails - Use shorter sticks of V-nails
Pressing the foot pedal the V-nail ejection is irregular	Insufficient working pressure	Check that the air pressure coming out from the compressor is at least 3 Bar.
Pressing the foot pedal the V-nail ejection is irregular	Opened V-nails magazine	Close the magazine by means of the special wire
Pressing the foot pedal the V-nail ejection is irregular	Faulty valves	<ul style="list-style-type: none"> - 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 water	-Remove the surplus of oil and water from the valves by disconnecting the air lines one by one, forcing out the water with the air.
Pressing the foot pedal the working pressure indicated on the regulator deeply decreases	Faulty pressure regulator	-Replace the regulator
Pressing the foot pedal the working pressure indicated regulator deeply decreases	Feed pipe too long or of inadequate diameter	Replace the piping with a new one of bigger diameter

Tabella 7.2.A

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 the re-positioning of the driver blade and/or vertical clamp cylinders	Faulty or jammed valves	<ul style="list-style-type: none"> - Remove the surplus of oil and/or water - Replace the foot pedal valve - Replace the faulty control valves
Wishing to insert several V-nails one upon the other in the same point, they do not stack properly or tilt during their insertion	Unsuitable V-nails	Replace the V-nail 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	Poor frames clamping (the frame moves during the V-nail insertion)	<ul style="list-style-type: none"> - Check and replace the vertical and frontal clamping positions - Increase the clamp pressure - Replace the pressure pad with the proper 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	Wore and torn 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	Jammed driver blade	Clean the driver blade's 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 clearly formulate their questions & send us a fax with a detailed description of the troubles met. For eventual explanations we suggest you reference this handbook and to the instructions listed in the paragraph 1.2.

ITW/AMP
FAX: 1-800-426-7019
Phone: 1-800-322-4204

8. SPARE PARTS

8.1 SPARE PARTS LIST

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

TABLE 8.1 - A

COMPONENT
<ul style="list-style-type: none">• 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.

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

To order the above listed spare parts, send by fax or letter the following data:

- Model of the Machine
- Code of mechanical drawing
- Reference 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. Sometimes they must be sent to different centers respecting the current Norms.

Concerning the machine's 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 DECLARATIONS

You can find here attached the following declarations

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

10.2 SCHEMES

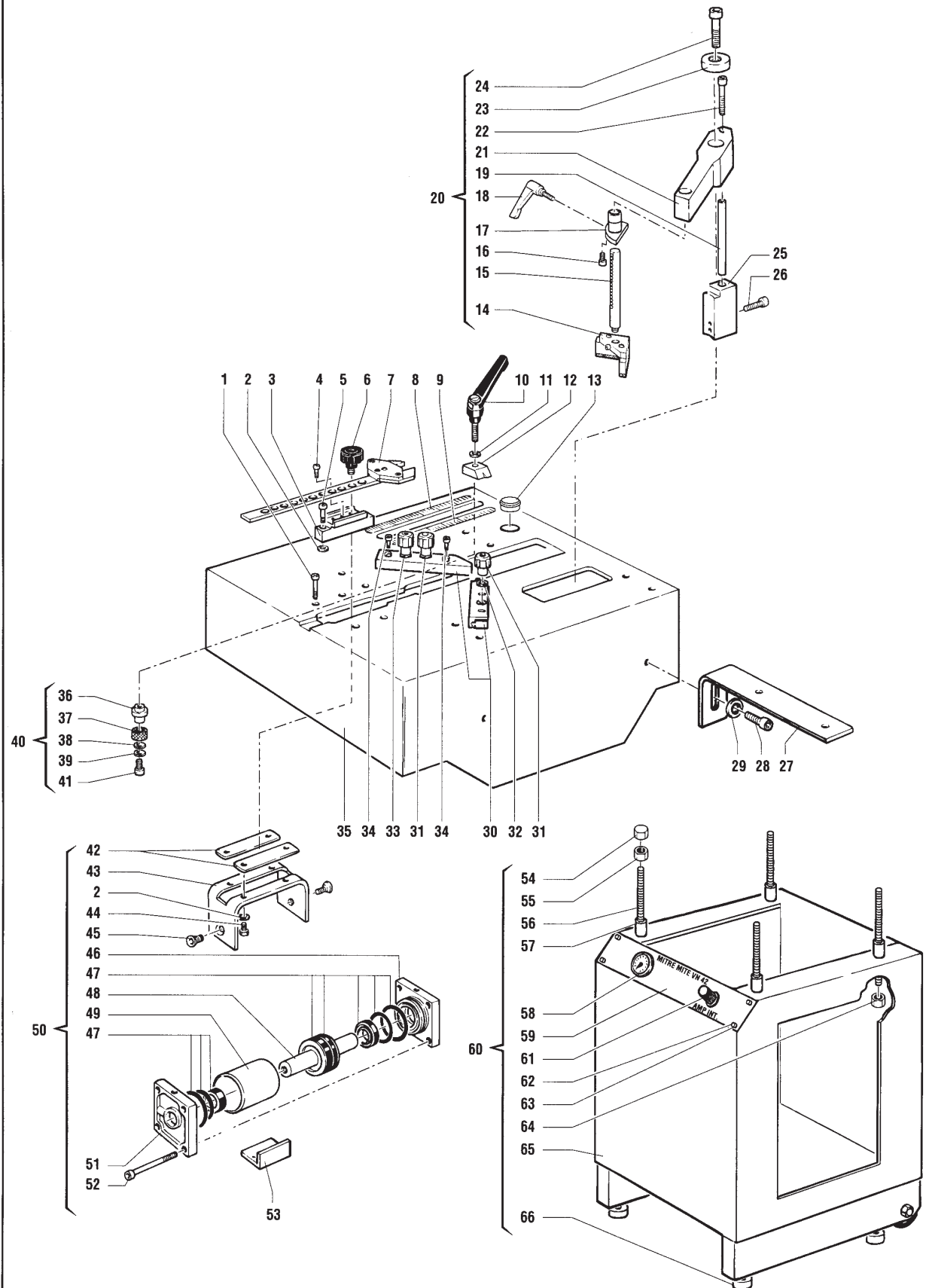
You can find attached here the following schemes:

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

MITRE-MITE VN 42

DWG Nr. 042.0.111

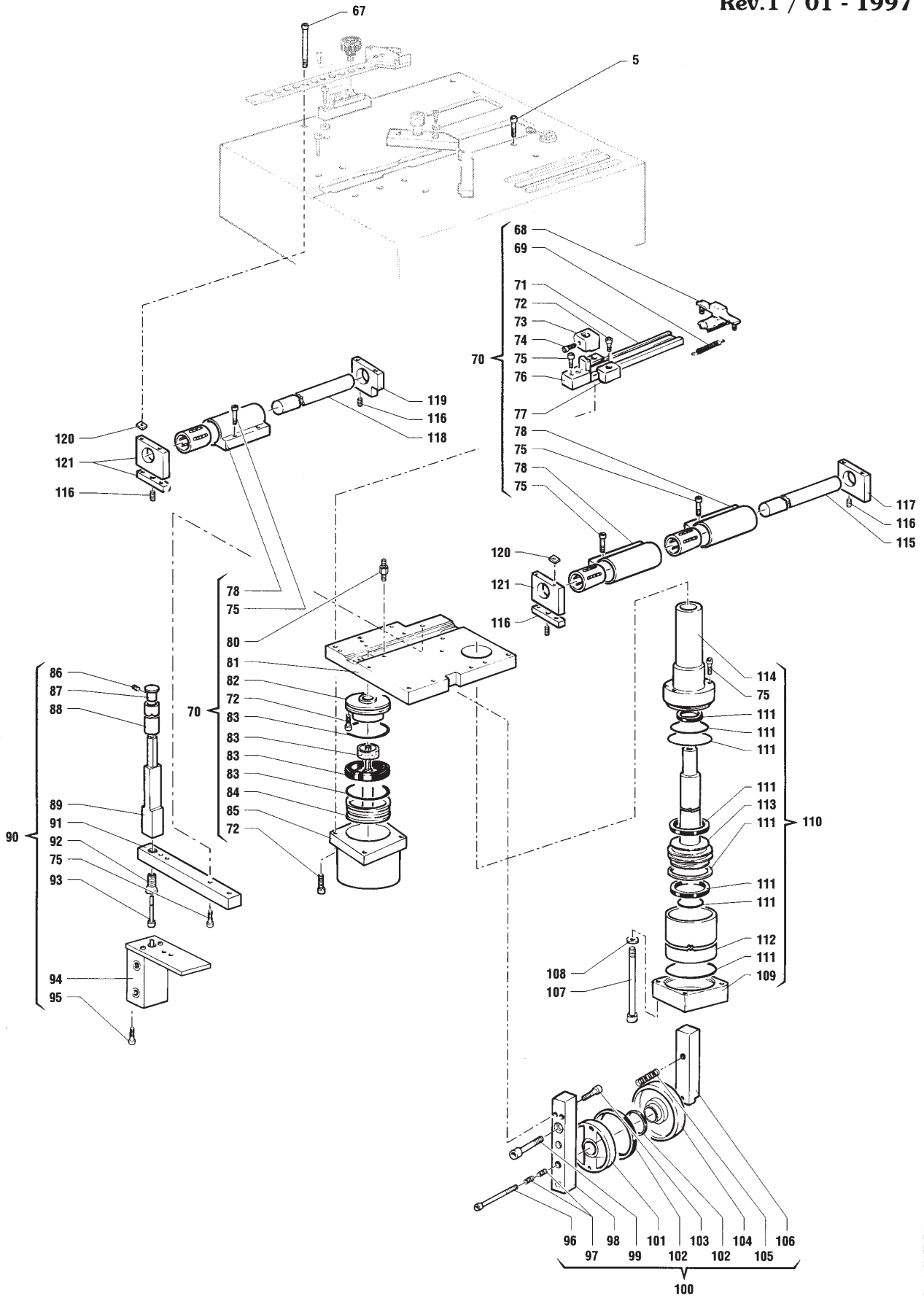
Rev.1 / 01 - 1997



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DWG Nr. 042.0.111

Rev.1 / 01 - 1997

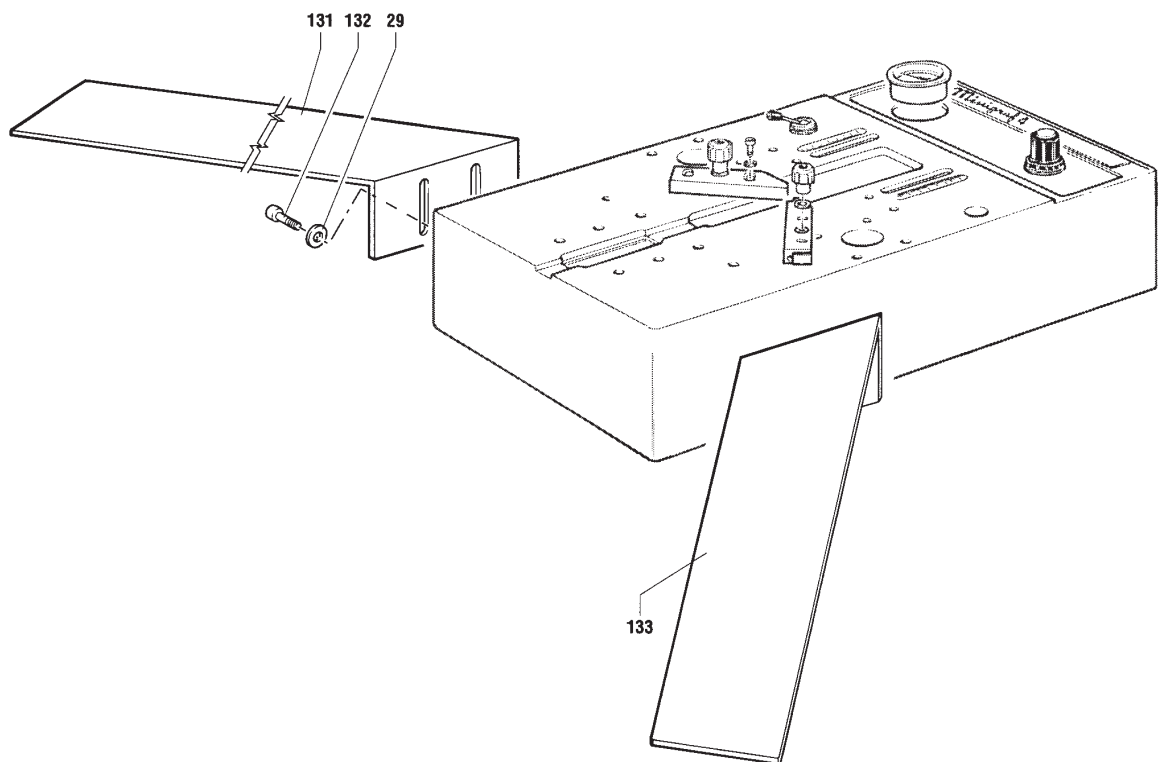
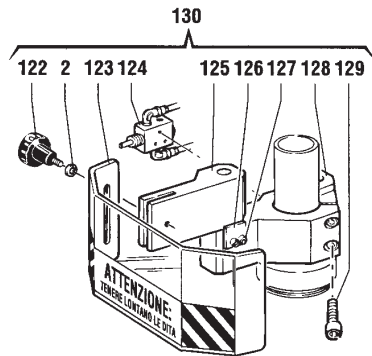


MITRE-MITE VN 42

DWG Nr. 042.0.111

Optional

Rev.1 / 01 - 1997



Please Note: Parts in bold red text are available for purchase online at: www.itwamp.com

Mitre Mite VN 42

Dwg nr. 042.0.111

Ref.	Item	Qty	Description
1	710100076	4	Screw
2	718100003	11	Washer (6mm)
3	392750010	1	Cursor
4	366210030	1	Screw
5	710100074	6	Screw
6	753320001	1	Front Clamp Knob
7	242170020	1	Standard Front Clamp
7	242170050	1	Spring Loaded Front Clamp
8	366710141	1	Left inch rule
9	366710131	1	Right inch rule
10	243170020	1	Ratchet Handle For Stop (M8X35)
11	336100070	2	Washer OD=16 ID=8 H=4
12	397150010	1	Clamp Right "Z"
13	365010050	1	Plug OD=22
14	242230050	1	Square rubber pressure plate
15	334000051	1	Hold Down Rod D=16mm L=141 mm
16	710100044	2	Screw
17	336500060	1	Bushing ID=16 L=44
18	243170010	1	Ratchet handle for hold down
19	334000060	1	Rod
20	241170040	1	Screw
21	376400150	1	Support
22	710100190	1	Screw
23	336100120	1	Washer
24	710100119	1	Screw
25	383900150	1	Block
26	710100072	2	Screw
27	294200010	6	Bracket
28	710100115	8	Screw
29	718100004	6	Special Washer I.D.=8.5mm
29	A001	1	Table Support Bracket Set
30	243160030	1	Dial Adjust Fence
31	336300030	2	Knob
32	337500030	3	Spacer
33	336300060	1	Knob
34	710100091	4	Screw
35	211250100	1	Main Frame
36	336600030	2	Bushing
37	337500070	2	Spacer
38	718100004	2	Washer
39	718300004	2	Washer
40	248000050	2	Complete limit Stop
41	710100134	2	Screw
42	371200010	2	Slide
43	384400010	1	Support
44	710600002	4	Screw
45	710200081	2	Screw
46	352200030	1	Head
47	298390050	1	Gasket Kit Front Clamp Cylinder
48	331000030	1	Piston
49	333500020	1	Cylinder Sleeve
50	225120010	1	Complete Front Clamp Cylinder
51	352200020	1	Front Clamp Cylinder Head
52	710100087	4	Screw

Mitre Mite VN 42

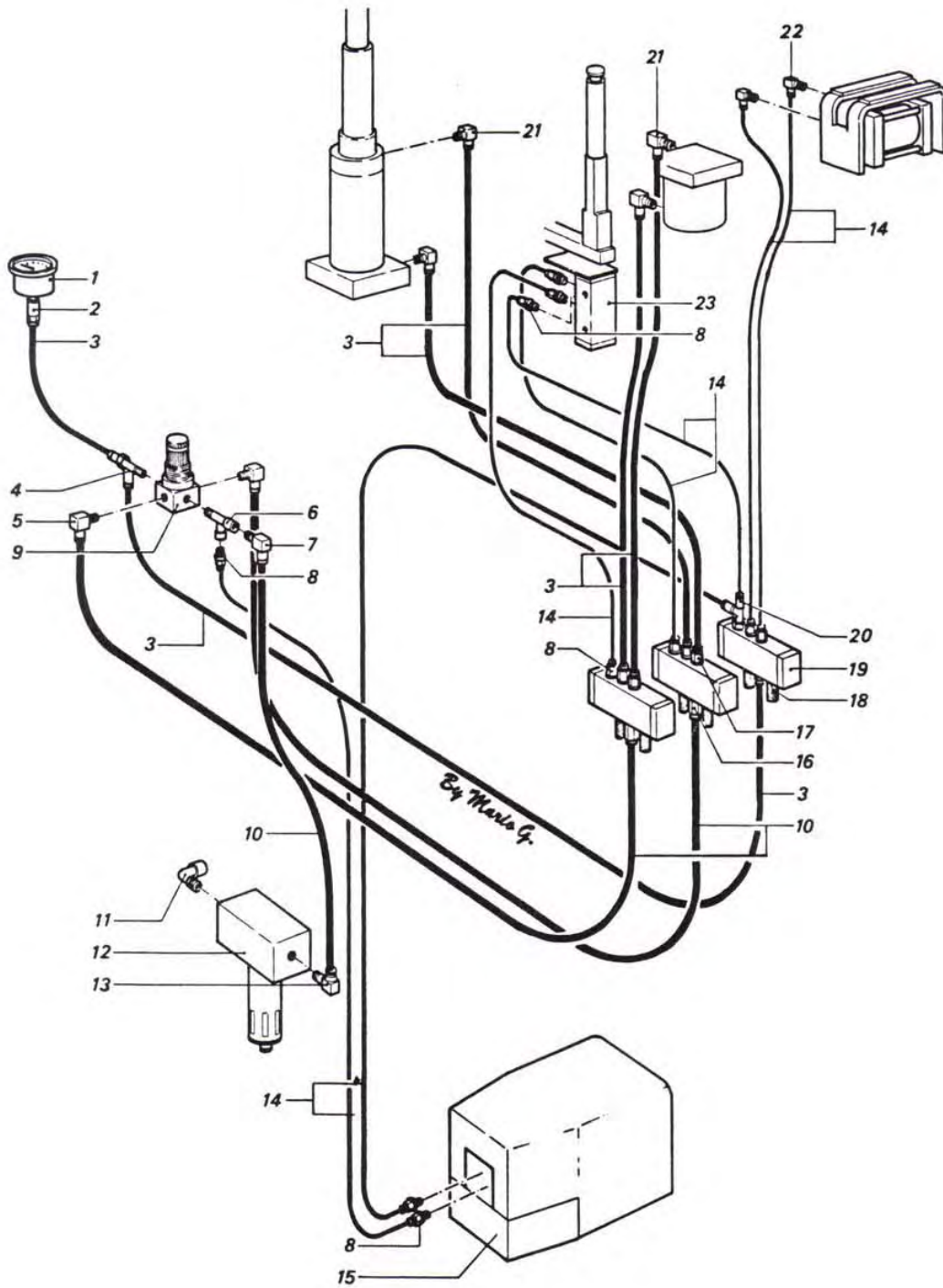
Dwg nr. 042.0.111

Ref.	Item	Qty	Description
53	384200020	2	Bracket For Front Clamp
54	715250001	4	Cap Nut
55	715350001	4	Hex Nut
56	707120001	4	Threaded Bar
57	336500100	4	Threaded Bushing
58	734230003	1	Main Pressure gauge
59	365210120	1	Name Plate VN42
60	240450050	1	Complete Floorstand VN42
61	735630002	1	Pressure Regulator 1/8" 0-8BAR
62	710100003	4	Screw
63	718100001	4	Washer
64	715850002	4	Nut 16mm
65	291670020	1	Base Only For VN42
66	753690010	4	Leveller Floor (All Models With Stands)
67	710100092	4	Screw SCS 6x65
68	245450010	1	Clawpusher With Arm VN42 Only
69	765000028	2	Feed Spring VN42
70	224240090	1	Complete Driver Assembly VN42
71	398350031	1	Steel Nail Magazine 2000+
72	710100093	8	Screw
73	394950060	1	Nail Head H5
73	394950020	1	Nail Head H7
73	394950030	1	Nail Head H10
73	394950040	1	Nail Head H12
73	394950050	1	Nail Head H15
74	710100070	5	Screw SCS 6 x 8
75	710100079	14	Screw SCS 6 x 25
76	384200050	1	L-Support Block
77	383600020	2	Block For Magazine
78	247000010	3	Complete Bushing VN42
80	393850010	2	Spring Holder VN42
81	373400230	1	Plate
82	352400010	1	Driver Cylinder Head OD=70
83	298390041	1	Driver Cylinder Gasket kit
84	298420040	1	Piston & Driver Blade
85	352200260	1	Driver Cylinder
86	714300003	1	Set Screw 4 x 4
87	363710020	1	Push Button For VN42
88	336500090	1	Bushing OD=25 ID=16 H=85, VN42
89	334500030	1	Handle 20 X 20, L=150, VN42
90	253710020	1	Complete Push Button Assembly VN42
91	388200010	1	Bracket
92	366210020	1	Special Screw 12 x 25
93	331500060	1	Rod OD=4
94	732290002	2	Foot Pedal, Touch lever, Push button Control valve
95	710100077	2	Screw SCS 6 x 20
96	710100085	1	Screw SCS 6 x 60
97	765000007	2	Spring (Molla 0.5 X 3.1 X15.5 CRSI)
98	381300010	1	Support
99	710100158	1	Screw SCS 10 x 45
100	381300010	1	Support
101	332500010	1	Piston
102	298390060	1	Gasket Kit AFC + Brake Cylinder OD=93 ID=38
103	710100077	2	Screw SCS 6 x 20

Mitre Mite VN 42

Dwg nr. 042.0.111

Ref.	Item	Qty	Description
104	333000010	1	Cover
105	765000004	1	Spring (2 X 17 X 35)
106	383600010	1	Support
107	710100089	4	Screw SCS 6 X 130
108	718100003	4	Washer 6mm
109	352200120	1	Vertical Cylinder Base OD=70
110	225220050	1	Complete Vertical Cylinder
111	298390080	1	Vertical Cylinder Gasket Kit OD=70 ID=38
112	333500080	1	Vertical Cylinder Sleeve ID=70 L=90
113	331000160	1	Piston For Vertical Cylinder OD=70
114	352400100	1	Vertical Cylinder Head
115	334000080	1	Guide Rod OD=25 L=340
116	714300016	4	Set Screw 6mm x 8mm
117	383900140	1	Support
118	334000070	1	Guide Rod OD=25 L=230
119	383900130	1	Support
120	381600100	8	Leveller Spacer
121	383900120	2	Support
121	372900030	2	Support, 56E 67J 100K
122	753320005	1	Knob D=20 M6X25
123	398950040	1	Protective Shield
124	732540003	1	Valve For Safety Guard
125	381300260	1	Support
126	373400220	1	Plate
127	710100052	2	Screw
128	381300270	1	Support
129	710100139	2	Screw SCS 8 x 20
130	248950030	1	Complete Safety Guard VN42
131	391650511	1	Left Extension Arm
132	710100112	4	Screw SCS 8 x 14
133	391650501	1	Right Extension Arm
134	291650010	1	Extension Arm Set



Please Note: Parts in bold red text are available for purchase online at: www.itwamp.com

Mitre Mite VN 42 Pneumatic List

Dwg nr. 43/P

Ref.	Item	Qty	Description
1	734230004	1	Main Pressure gauge
2			Fitting
3			Tube 6x4
4			Fitting
5			Fitting
6			Fitting
7			Fitting
8			Fitting
9	735630002	1	Pressure Regulator 1/8" 0-8BAR
10			Tube 8 x 6
11			Fitting
12			Air Filter
13			Fitting
14			Tube 4 x 2.5
15	258710010	1	Complete Pneumatic Foot Pedal
15	732290002	2	Foot Pedal, Touch lever, Push button Control valve
16			Fitting
17			Fitting
18	756700003	6	1/8" Silencer
19	732440003	3	Control Valve (VN4, VN42, VN44)
20			Fitting
21			Fitting
22			Fitting
23	732290002	2	Foot Pedal, Touch lever, Push button Control valve

SCHEME 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 Forlì ITALY
Tipo Minigraf 42
Anno di costruzione 1998
Matricola 32645
Peso 60 Kg.
Alimentazione pneumatica 5-7 BAR

CAUTION:
KEEP FINGERS AWAY

SCHEME D - SHARPENING TABLE


	SOFT WOOD			HARD WOOD		
	A	B	C	D	E	F
<i>Height</i> 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
-------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------