OPERATING AND MAINTENANCE INSTRUCTIONS

CE

PNEUMATIC CRIMPING MACHINE

GAMMA

Built in year: 2008

List of contents

5 OPERATING INSTRUCTIONS

6 GUIDELINES FOR SAFE USE

7 MAINTENANCE

LIST OF THE VALID PAGES

Section	Total pages	Date
Preliminary Text	From pag. i to pag. vii	July 2003
1	From pag. 1-1 to pag. 1-4	July 2003
2	From pag. 2-1 to pag. 2-3	July 2003
3	From pag. 3-1 to pag. 3-5	July 2003
4	From pag. 4-1 to pag. 4-3	July 2003
5	From pag. 5-1 to pag. 5-9	July 2003
6	From pag. 6-1 to pag. 6-3	July 2003
7	From pag. 7-1 to pag. 7-5	July 2003
8	Pag. 8-1	July 2003
9	Pag. 9-1	July 2003

LIST OF THE REVISED AND/OR ADDED PAGES

Rev.	Description	Page	Date

MANUFACTURING DATA

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The same rating is fixed on the machine with indication of the machine data and the manufacturer's data.

ATLA COOP SRL

OPERATING AND MAINTENANCE INSTRUCTIONS

PNEUMATIC CRIMPING MACHINE

GAMMA

CE

Built in year: 2005

Rev. 00

1 HOW TO USE AND KEEP THIS INSTRUCTIONS HANDBOOK

1.1 Purpose and Allocation of these Instructions

This Instructions Handbook contains the necessary instructions for the correct use and maintenance of the pneumatic crimping machine called GAMMA.

The machine must always be accompanied by these instructions throughout its whole lifetime. In the event that the machine is sold or given in possession of a third party, it's necessary to transfer also these instructions together with all the other enclosed documents in order to guarantee the user's and operator's safety.

This handbook allows to perform the following operations :

— installation
— regulation
— exploitation
— maintenance
— scrapping

This handbook is allocated both to the user and to the operator in charge of these operations. The failure to use the machine in accordance with the instructions contained in this handbook will release the company ATLA COOP from any liability.

The company ATLA COOP shall not be liable for incidental or consequential damages resulting from the following circumstances :

— Abuse or misuse of the machine
— Failure to use the machine in accordance with the technical or safety standards in force in a given country
— Installation of the machine in a manner inconsistent with the instructions contained in this handbook
— Failure to perform the forseen maintenance
— Alteration, modification
— Replacement of not original or not specific spare parts
— Failure to use the machine in accordance with the instructions of this handbook

These instructions cannot be used as a point of reference for adaptations, changes or adjustments to upgrade the machine from its normal purpose. If this happens ATLA COOPshall be released from any liability. ATLA COOP shall not be liable for circumstances other than defects in materials or workmanship.

1.2 Definitions and terminology

— User
— Operator
— Machine

— The"User" is the person who is in charge, because of his/her qualification, of the permanent operation of the machine.

— The "Operator" is the person who is in charge of machine installation, putting into service, adjustment, maintenance, cleaning, repair and trasport.

— In these instructions the words "machine" and "crimping machine" refers to the crimping machine called GAMMA.

All maintenance and operating works must be carried out by persons qualified for such works. The qualification degree refers to the works and the operations, which the operator is assigned to in accordance with the manufacturer's instructions.

Qualification 1

The person with this qualification has no specific education, but he/she is qualified to simply operate the machine. He/she will reach this qualification by means of thorough reading of these instructions and training by ATLA COOP Service.

Qualification 2

The person with this qualification has a specific education in electronically controlled Automatic Machines with a specific knowledge on how to carry out mechanical and electrical works. This qualification enables the person to perform regulation and routine or remedial maintenance works in accordance with these operating and maintenance instructions. The person will reach this qualification by means of thorough reading of these instructions and training by ATLA COOP Service.

Qualifica 3

The person with this qualification has a specific education in electronically controlled Automatic Machines and he/she is qualified for electric works. This qualification enables the person to perform installation, regulation, routine or remedial maintenance works. The person will reach this qualification by means of thorough reading of these instructions and training by ATLA COOP Service.

1.3 Handbook's Layout

This handbook has been drafted and drawn up in compliance with the Machinery Directive (98/37)CE and the technical and safety standards there quoted when applicable. The handbook's layout is as follows:

— Page for the indentification of the rating (relating to the specific machine).
— List of the valid pages.
— List of the revised pages.
— Table of contents.
— Enclosed documents.

The enclosed documents enable the purchaser to personalize the machine to his/her needs. The list of the valid pages contains the indication of quantity of pages of each section in order to check the handbook's completeness.

1.4 How to keep this Handbook

This handbook must always be available to the user in order to enable him/her to operate correctly the machine. Therefore, this handbook must be kept near the machine in a dry place provided for the purpose, far from heat sources and any other climatic condition that may damage it. To achieve a precise knowledge of the machine it is necessary that the handbook is complete. Check therefore its completeness with reference to the list of contents. In case of its lost or damage, please, contact the company ATLA COOP for a further copy.

1.5 Updating

New updated editions of these Operating and Maintenance Instructions may be made without notice. Notice will be given only in case of improvement in the machine's safety level and in case of changes that modify the machine functioning.
These instructions must also be updated after each operation carried out by ATLA COOP Service, which result in a change of the machine layout, operating or control. It may be also necessary to update the list of the revised pages. In this case, ATLA COOP undertakes to provide the updated revised pages, together with a new copy of their list and the updated table of the revisions there contained.

In order to avoid contradictions between the instructions and the operations to be carried out, the user must take care to replace the old pages with the new ones.

! ! ! WARNING ! ! !

Contradictions between these instructions and the machine layout may cause risks for the user. It is therefore important to follow the above advice.

1.6 Terminology

These Operating and Maintenance Instructions contain important advice for the user/operator on how specific procedures have to be performed. The types of advice are as follows:

NOTE: Advice on special machine characteristics in order to help the operator to optimize his/her operating.

CAUTION: Very important advice on what is to be done/or not to be done before operating the machine in order to avoid damage to the machine.

WARNING: Very important advice on what is to be done/or not to be done before operating the machine in order to avoid injuries to persons.

2 GENERAL DESCRIPTION

2.1 Overall dimensions and technical data

The overall dimensions of the complete crimping machine GAMMA are shown in fig. 2-1. The measures are in millimeters.

! NOTE !

While installing ensure 100cm clearance all around the machine to allow user's free movement.

The following data refer to the machine technical characteristics, performance and capacity.

- Machine height: 1308 mm;
- Machine width: 835 mm (1946 mm with support profiles);
- Machine lenght: 786 mm (1221 mm with support profiles);
- Machine weight: 350 kg;
- Air supply: 0,7 MPa (7 bar);
- Air absorption: 9 l/corner;
- Max operating stroke: 350 mm;
- Knives operating stroke: max 12 mm;
- Sound-intensity level: 73 dB(A).

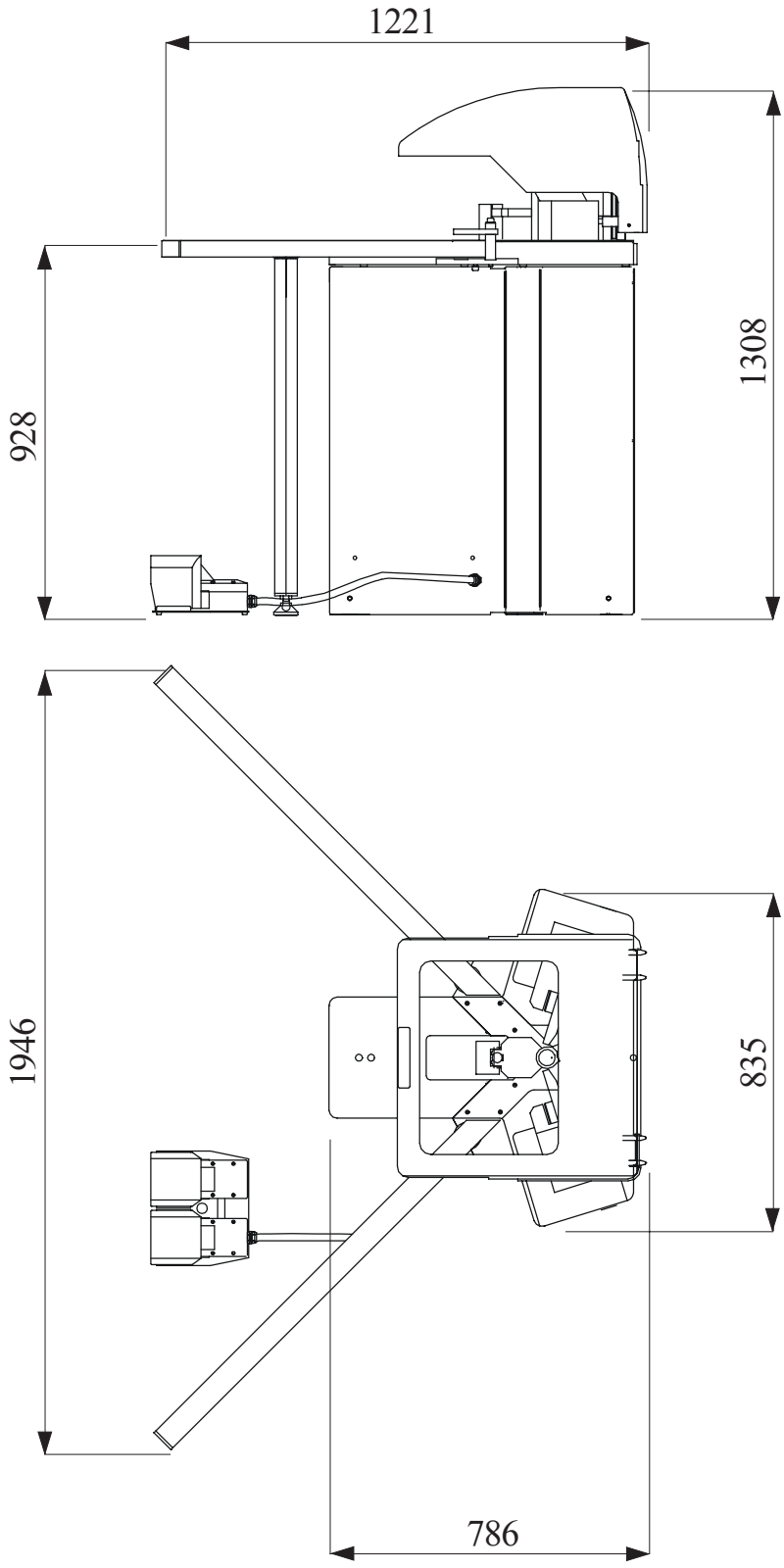


Fig. 2.1

2.2 Duty

The crimping machine is designed to effect the assembly (crimping) of aluminium and PVC/iron profiles.

Max machinable profiles sizes:

— Max profile height : max 120 mm;
— Max profile thickness (aluminium): max 3 mm;
— Max operating range of crimping heads and reference forks: from 23,5 to 63,5.

2.3 Standard Equipment

The machine is not equipped with accessories or special tools which could change her functioning.

The machine comes complete with the following accessories:

— n° 1 setscrew wrench 8 mm;
— n° 2 support profiles.

2.4 Guidelines for Safe Use

The crimping machine GAMMA is designed and constructed in compliance with the relevant CE Directives and the safety standards there quoted.

In case of malfunctions not forseen or foreseeable in these instructions, please, contact ATLA COOP Service, before operating with the machine. The company ATLA COOP shall not be liable for incidental or consequential damages resulting from abuse or misuse beyond its control.

2.5 Suitable User

The user operating with the machine must have Qualification 1, in order to guarantee a good knowledge of the correct machine operation. The above mentioned qualification can be reached through thorough reading of these Operating and Maintenance Instructions and training by already qualified personnel.

3 SPECIFICATIONS

3.1 General Description

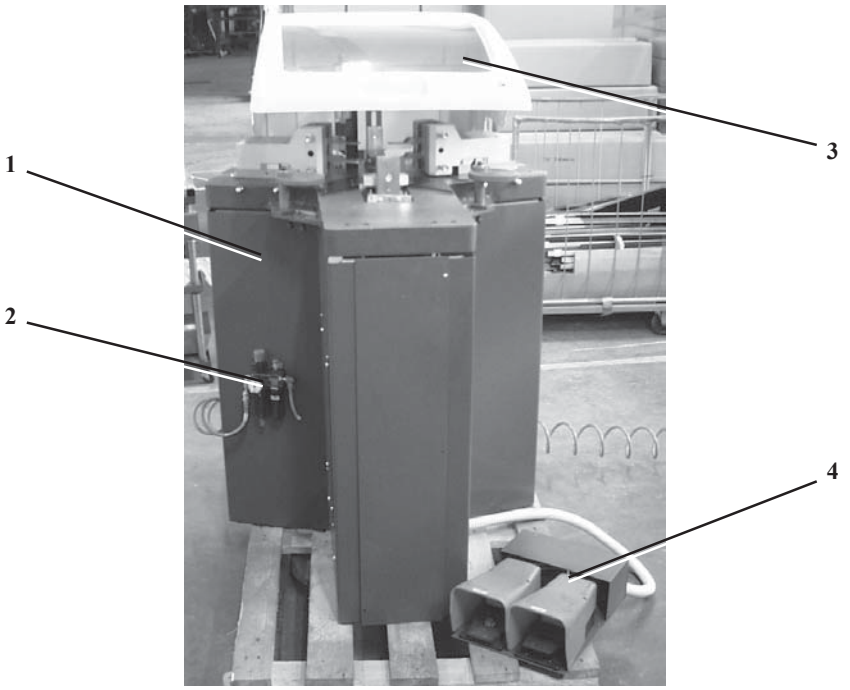
The machine is designed and constructed for crimping and correct assembly of aluminium profiles through the pneumatically controlled system.

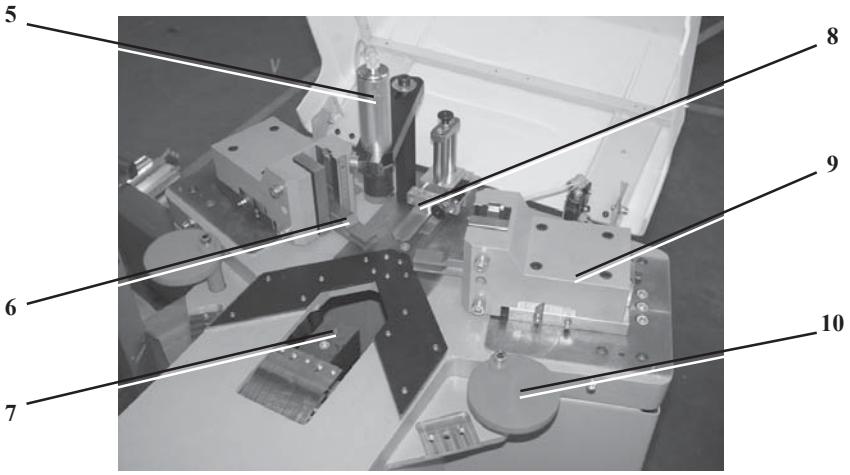
The machine operating is semiautomatic, the machining cycle of various units are manual controlled by user who always stays outside danger's area.

The macchina is equipped with the foot pedals for the operation control during the machining cycle.

Fig. 3.1 shows the various parts of the crimping machine.

See section 5 for a detailed description of the control devices.
See section 6 for a detailed description of the safety devices.





1 *Machine bed*
2 *Air connection- pressure regulator*
3 *Safety guard for work area*
4 *Foot pedals*
5 *Vertical cylinder for clamping*
6 *Crimping knives*
7 *Clamp unit with bracing clamp*
8 *Reference forks unit*
9 *Crimping head*
10 *Eccentric guide*
- *Support profiles (not shown)*

Fig. 3.1

3.2 Operation

The crimping machine GAMMA is designed and constructed to join and close profile corners through crimping. The entire machining cycle is controlled by pneumatic cylinders built inside the machine bed, exclusive of the vertical cylinder (5, fig. 3.1) put on the worktable. For this reason the machine is supplied exclusively with air supply from outside (6÷7 bar).

The machine operation is semiautomatic and every machining cycle is performed after previous user's consent.
The machining cycle is very simple: once the profile is manually positioned against the reference works (8, fig. 3.1) (after opening the safety cover), the user must close the cover in order to allow the clamp's movement (7, fig. 3.1). The bracing clamp rotates from the machine bed and then moves forward until it presses the internal profile corner.

Now, the user can active the profile crimping, which comes by means of knives (6, fig. 3.1) built on the crimping heads.

In particular, the clamp's rotation is reached by means of the pneumatic cylinder controlled by the pneumatic end-stroke built on the cylinder for clamp's forward movement. It allows to activate the rotation only when the clamp is in the backward position.

The forward movement of the clamp is reached be means of the oleo-pneumatic cylinder driven by an oil vessel supplied with pressure of 2,5 bar. The air goes into the vessel causing the oil's compression that generates the forward movement of the clamp until the end-stroke; then the special valve blocks the oil inside in order to allow the clamp to stay in position during the crimping cycle.

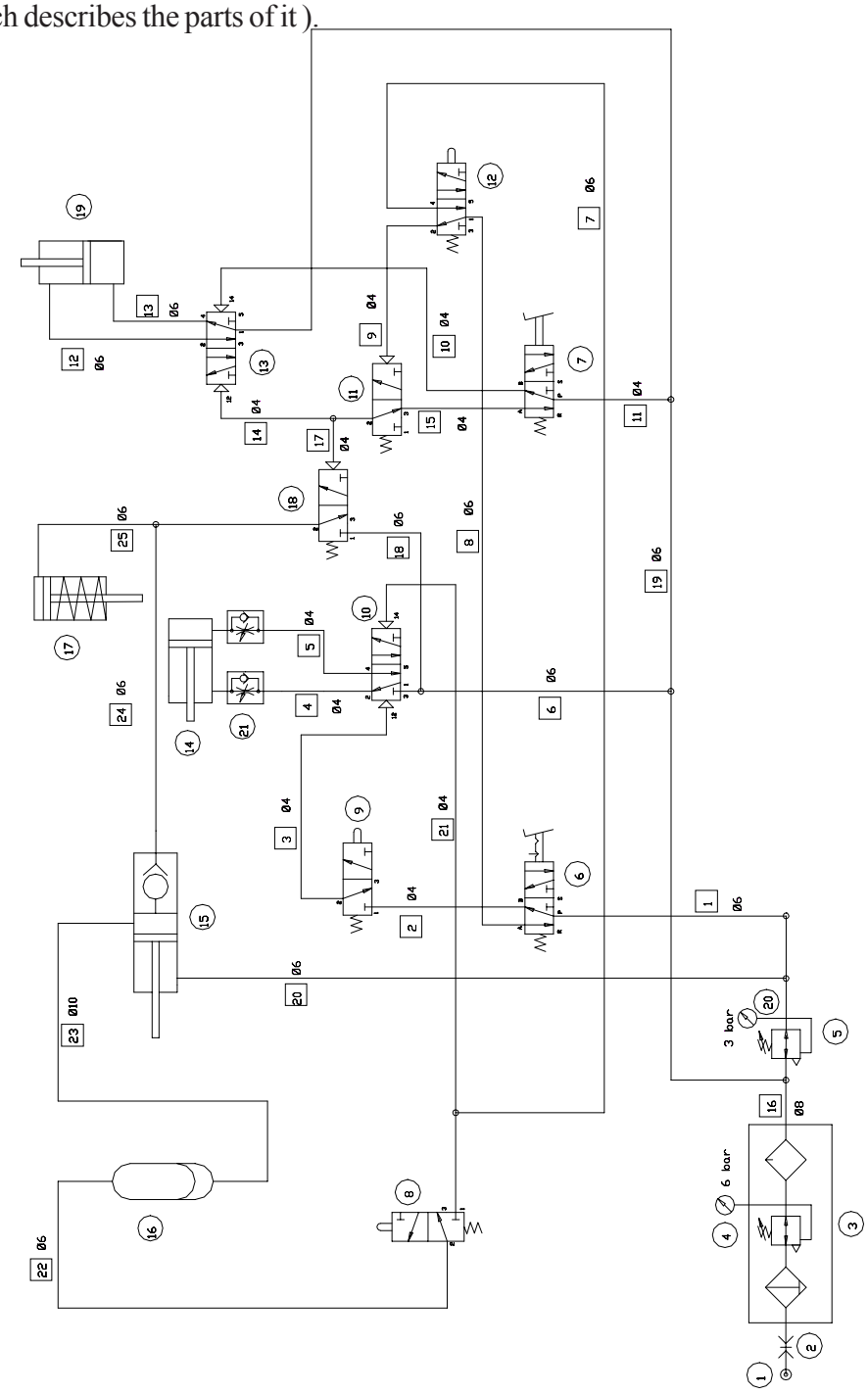
The crimping knives are driven by the other cylinder, vertically put inside the machine bed, which activates a leverage actuating simultaneously the forward movement of the crimping knives. Together with the knives is activated the vertical cylinder.

All movements are controlled through the pneumatic end-strokes (also control of the cover).

Various regulations of the machine are effected through the manual devices and by help of the graduated scales.

3.3 Pneumatic System

The machine is fitted only with pneumatic system whose diagrams are enclosed in this handbook in order to allow complete training and knowledge of the machine (the diagram is complete with the table which describes the parts of it).



Rif. Ref.	Descrizione Description	Tipo Type	Marca Make
1	Alimentazione Power supply		
2	Innesto rapido 1/4 Quick coupling		
3	Gruppo filtro regolatore 1/4 Filter-lubricator unit 1/4	GTA 00006	K.P.M.
4	Manometro 1/8 0-12 bar Pressure gauge 1/8 0-12 bar	MAN 00005	K.P.M.
5	Regolatore di pressione 1/8 - Alimentazione a bassa pressione morsa Pressure regulator 1/8 - for vice low pressure feed	RGA 00001	K.P.M.
6	Valvola 5/2 bistabile a pedale - Andata/ritorno morsa Pedal + 5/2 bistable valve - Vice forward/return stroke		K.P.M.
7	Valvola 5/2 monostabile a pedale - Cinafrinatura/fine cianfrinatura Pedal + 5/2 monostable valve - On/off Crimping		K.P.M.
8	Valvola a puntale 3/2 1/8 NC - Finecorsa orizzontale morsa Plunger valve 3/2 1/8 NC - Vice horizontal end of stoke	CL102A00	K.P.M.
9	Valvola a puntale 3/2 NC - Finecorsa rotazione morsa Plunger valve 3/2 NC - Vice rotation end	CL102A00	K.P.M.
10	Valvola pneumatica 5/2 1/8 bistabile - Rotazione morsa Pneumatic valve 5/2 1/8 bistable - Vice rotating	VPK 00011	K.P.M.
11	Valvola pneumatica 3/2 1/8 NC Pneumatic valve 3/2 1/8 NC	VPF 00002	K.P.M.
12	Valvola a puntale 5/2 1/8 NC - Chiusura carter Plunger valve 3/2 1/8 NC - Protective cover closing	VPF 00002	K.P.M.
13	Valvola pneumatica 5/2 1/4 bistabile - cianfrinatura Pneumatic valve 5/2 1/4 bistable - for crimping	CM402A00	K.P.M.
14	Minicilindro D=20 C=80 - Rotazione morsa Mini cylinder D=20 Stroke=80 - Vice rotating	RA20 0 0080	K.P.M.
15	Cilindro idraulico 40/120 con blocco - Avanzamento morsa Hydraulic cylinder 40/120 w/lock - for vice advance		2BC
16	Serbatoio olio Oil vessel		K.P.M.
17	Cilindro 35/8 - per il bloccaggio verticale Cylinder 35/8 - for vertical clamping		Diottalevi
18	Valvola pneum.3/2 1/8 NC - cilindro pressore e bloccaggio morsa Pneumatic valve 3/2 1/8 NC - for vice locking and vertical clamping	VPF 00002	K.P.M.
19	Cilindro D=80 C=180 - Cianfrinatura Cylinder D=80 Stroke=180 - Crimping		K.P.M.
20	Manometro 1/8 0-12 bar Pressure gauge 1/8 0-12 bar	MAN 00005	K.P.M.
21	Regolatore di flusso 1/8-4 x cilindri Flow regulator 1/8-4	RRK00119	K.P.M.

4 INSTALLATION

4.1 Introduction

This section contains transport, handling, storage and installation modes of the crimping machine GAMMA. Each of the following paragraphs reviews one of the above-mentioned operations describing the procedures essential to their implementation.

4.2 Transport and handling

Before transporting the machine you must carefully fasten it to a pallet (fig. 4.1) or pack it in a caseor. The outside of the package must be provided with arrows showing the correct vertical position of the machine. The machine must be carefully fastened to its package in order to guarantee its protection during the transport. The various appliances making up the machine can not be moved by hand, for they are not fitted with proper devices or accessories for manual handling. Therefore, they must be lifted and handled by means of hoisting equipment with sufficient capacity load (see data section 2). Use a lift truck with forks min.1,5 m long which must be inserted according to the arrows shown on the package.

If the machine is to be handled without package (fig. 4.1) use a lift truck with the above mentioned features and insert the forks as shown in figure.

It is also possible to lift the machine by means of crane or bridge crane: screw four eyebolts M12 (1, fig. 4.1) into the foreseen holes on the worktable, then fix the hoist cables (or chains). Choose the cables/chains according to the weight to be lifted.

During the handling keep the machine stable in order to avoid any risk of falling due to jerks, accelerations or decelerations.

! ! ! WARNING ! ! !

Be careful during lifting and handlig in order to avoid the loss of balance and subsequent risk of falling down. Specially when laying the machine down in the intended installation site be careful in order to prevent the crushing of legs.

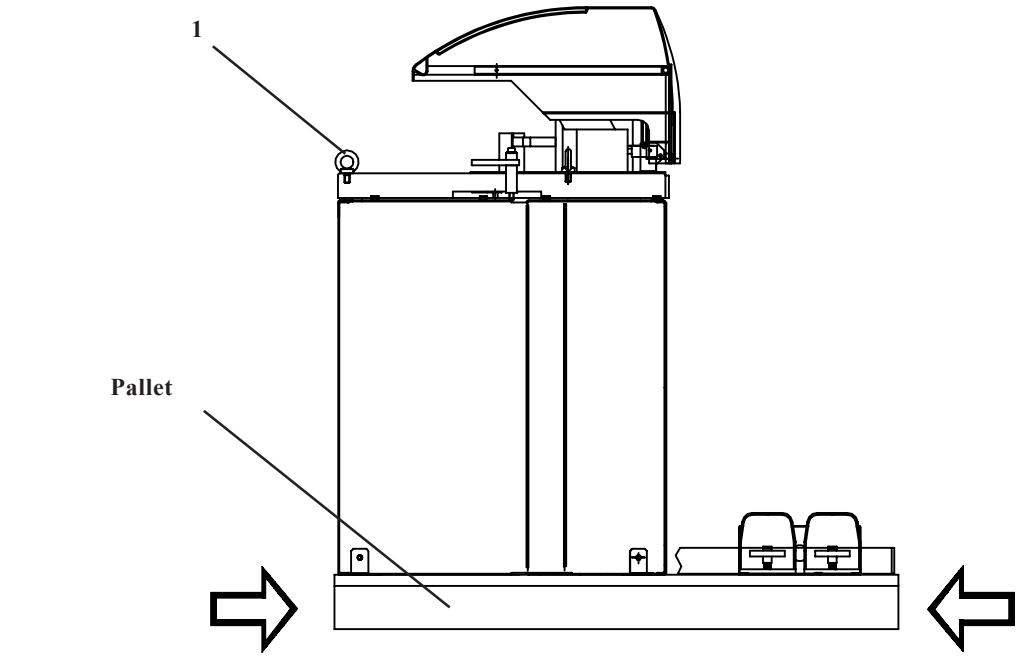


Fig. 4.1

4.3 Storing

In case of storage the machine is designed and constructed for the following climatic conditions:

— Storage temperature: min. -25°C and max. +55°C for long-term storage min. -25°C and max. +70°C for short-term storage (max. 24 hours)
— Relative humidity: min. 30% max. 95% (without condensate).

4.4 Environmental conditions

The machine is designed and constructed to operate in industrial plants. Therefore, the required environmental conditions are as follows:

— temperature: -15°C ÷ +60°C
— Relative humidity: 30% ÷ 95% (without condensate).

The use of the machine in different environmental conditions is not foreseen.

!! CAUTION !!

ATLA COOP shall not be liable for incidental or consequential damages resulting from the failure to use the machine in accordance with these environmental conditions or in conditions not foreseen in these instructions. Contact ATLA COOP for assistance in case of use under different climatic conditions.

4.5 Installation

After having unpacked the machine install it as follows:

— Make the machine perfectly level in the installation site
— Connect the machine to the the air supply connecting the air pipe (Ø inside = 7,5 mm) to the relevant connection (1, fig. 4.2) on the pressure regulator (2)
— Regulate the inlet pressure with the regulator (3).

4.6 Required installation characteristics

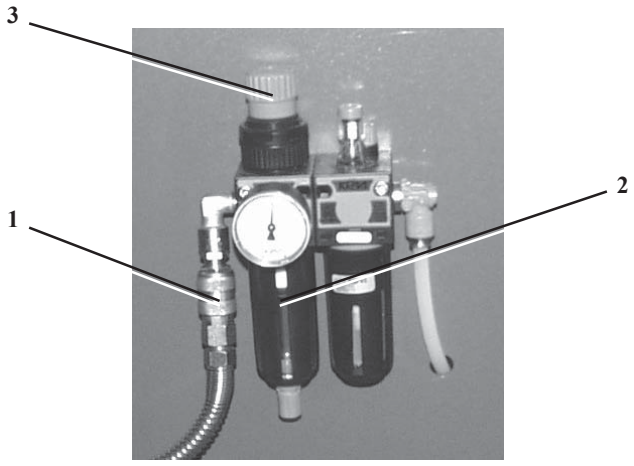


Fig. 4.2

The installation of the machine requires only the air supply. The required characteristics of the power supplied are as follows:

— Air supply with pressure 6÷7 bar ± 10% with quick-coupling connections, max. absorption: 9 l/corner.

5 OPERATING INSTRUCTIONS

5.1 Operating commands and control devices

The crimping machine is operated exclusively by means of the relevant foot pedals (fig. 5.1). In the legend below you find a description of the pedals functions.

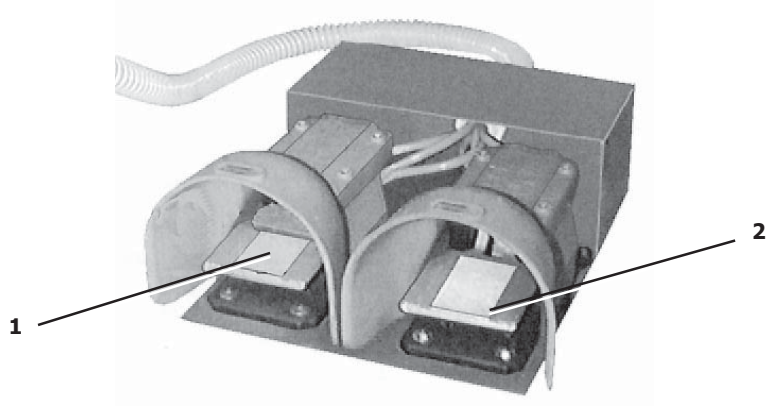


Fig. 5.1

Command description fig. 5.1:

1. Left pedal: press the left pedal to move forward the bracing clamp in order to fully clamp the profile. The pedal is bistable. Press again the foot pedal to move the bracing clamp in his home position.

2. Right pedal: press teh right pedal to activate the crimping cycle (forward movement of knives and vertical cylinder). The pedal is monostable.

5.2 Other commands on the crimping machine

Besides the foot pedals the machine is equipped with a pressure regulator (1, fig. 5.2) for the regulation of the inlet pressure. The operator can regulate the pressure through the adjusting knob (2) and control his value with the gauge. (3).

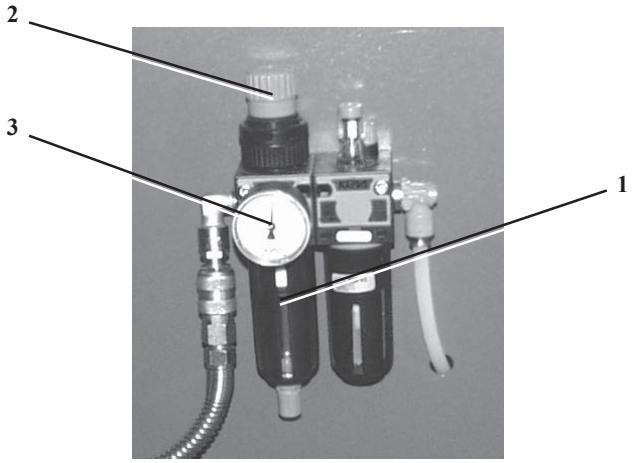


Fig. 5.2

5.3 How to start on and stop the machine

5.3.1 TURNING ON

— Connect the machine to the air supply.
— Assure that the inlet pressure is 6 bar.
— Position the profile as described in paragraph 5.5.

5.3.2 TURNING OFF

Because of the simplicity of the machine and the functioning's type the turning off at the end of work shift is reached by disconnecting the machine from the air supply through the relevant quick coupling when the machine has finished the crimping cycle and the bracing clamp is in home position.

5.4 Machining cycle

The machining cycle to carry out for working different profiles is the following:

— Open the safety guard.
— Adjust all tools(reference forks, eccentric guides, vertical cylinder for clamping, position of crimping heads and crimping knives) according to the sizes and features of profile to be machined.
— Put the profile in crimping position against the reference forks
— Close the safety guard.
— Press the left pedal (1, fig. 5.1) locking it in position to move upwards the bracing clamp out of the machine bed and then to move it forward till he grips the profile.

! ! ! WARNING ! ! !

Do not interfere in the area beyond the safety guards neither in the area og bracing clamp's movement to prevent the injuries (crush hazard).

— Press the right pedal (2, fig. 5.2) a few seconds in order to activate the crimping heads and the vertical cylinder for the crimping cycle.
— Release the right pedal (the crimping heads come back in their home position).
— Release the left pedal (the bracing clamp comes back in its home position, inside the machine bed).
— Remove the profile.

! ! ! WARNING ! ! !

While adjusting the crimping heads, the operator has the possibility to open the safety guard and try to crimp (movement of knives and vertical cylinder). During those operations do not interfere near the area of vertical clamp and knives movement to prevent injuries (crush hazard).

5.5 How to work a profil

The machine can work profiles with various sizes and features. Therefore, the user must carry out the machine set up in order to adjust the various tools according to the profile to be machined.

The machine adjustings are the following:

— adjusting vertical cylinder;
— adjusting the eccentric guides;
— mounting and adjusting the bracing clamp;
— mounting and adjusting the crimping knives;
— adjusting the reference forks.

5.5.1 HOW TO ADJUST THE VERTICAL CYLINDER

— Open the safety guard.
— Position a sample profile on the worktable.
— Loose the screw (1, fig. 5.3).
— Swing the profile clamp holder (2) until the cylinder (3) is aligned with the profile.
— Tighten the screw .
— Loose the screw (4).
— Move downward the cylinder (5) until its plunger is at a distance of 5÷10 mm from the profile.
— Tighten the screw (4).

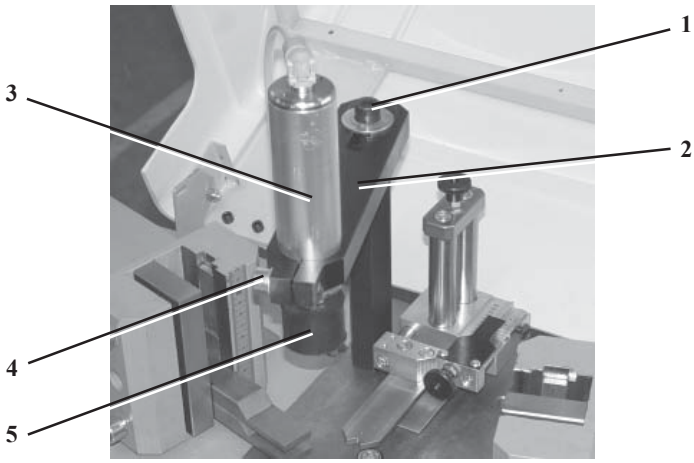


Fig. 5.3

5.5.2 HOW TO ADJUST THE ECCENTRIC GUIDES

— Open the safety guard.
— Loose the screws (1, fig. 5.4) and swing outwards the eccentric guides (2).
— Insert a sample profile into the machine and press it against the reference forks.
— Regulate the profile corner on both sides paralell to the worktable .
— Swing the eccentric guides until they lean against the profile.
— Fix the eccentric guides by tightening the screws (1).

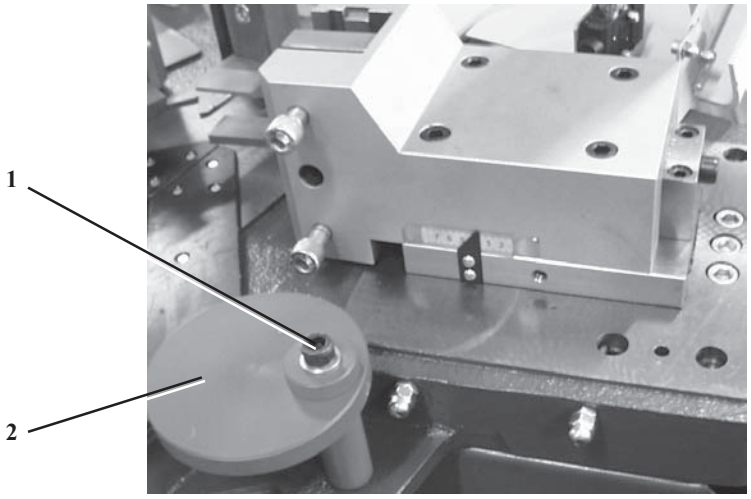


Fig. 5.4

5.5.3 HOW TO MOUNT AND ADJUST THE BRACING CLAMP

— By closed safety guard activate the bracing clamp through the left pedal (1, fig. 5.1) locking it.
— Open the safety guard to move backward the bracing clamp.

! ! ! WARNING ! ! !

Do not interfere in the area of bracing clamp's movement, by opening the safety guard the bracing clamp goes back without re-entering in the machine bed.

— Loose the screw (1, fig. 5.5) which blocks the bracing clamp(2).
— Insert the bracing clamp (2) into the holding catch (3).
— Position a sample profile on the worktable in front of the bracing clamp and adjust the height according to the profile.
— Fasten the bracing clamp by tightening the screw (1).
— Remove the profile and close the safety guard.
— Release the left pedal to move the bracing clamp downwards into the machine bed.

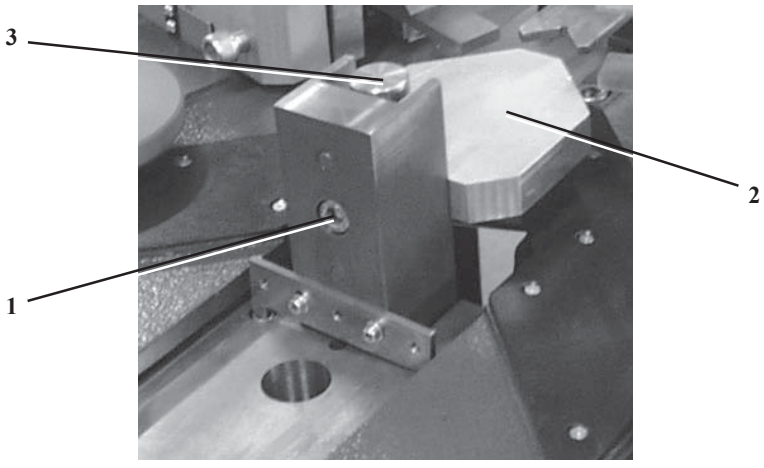


Fig. 5.5

5.5.4 HOW TO MOUNT AND ADJUST THE CRIMPING KNIVES

— Open the safety guard.
— Loose four screws (1, fig. 5.6) on the crimping head (2) and adjust the position of head by swinging the screw (3) according to the crimping point of corner's chamber (dimension «d», fig. 5.7) where the reference forks will press.
— In particular the operator must move the head till he reads on the graduated scale (4, fig. 5.6) the measure that represents the value «d» (in mm).
— Once the position reached, tighten the screws (1).
— Loose two screws (5) and insert the knives (6) (one or two) into their holder.
— Measure the crimping height on the profile to be worked, then position them at the required height by means of the graduated scale (7); then tighten the screws (5).
— Perform the same operations for both heads.

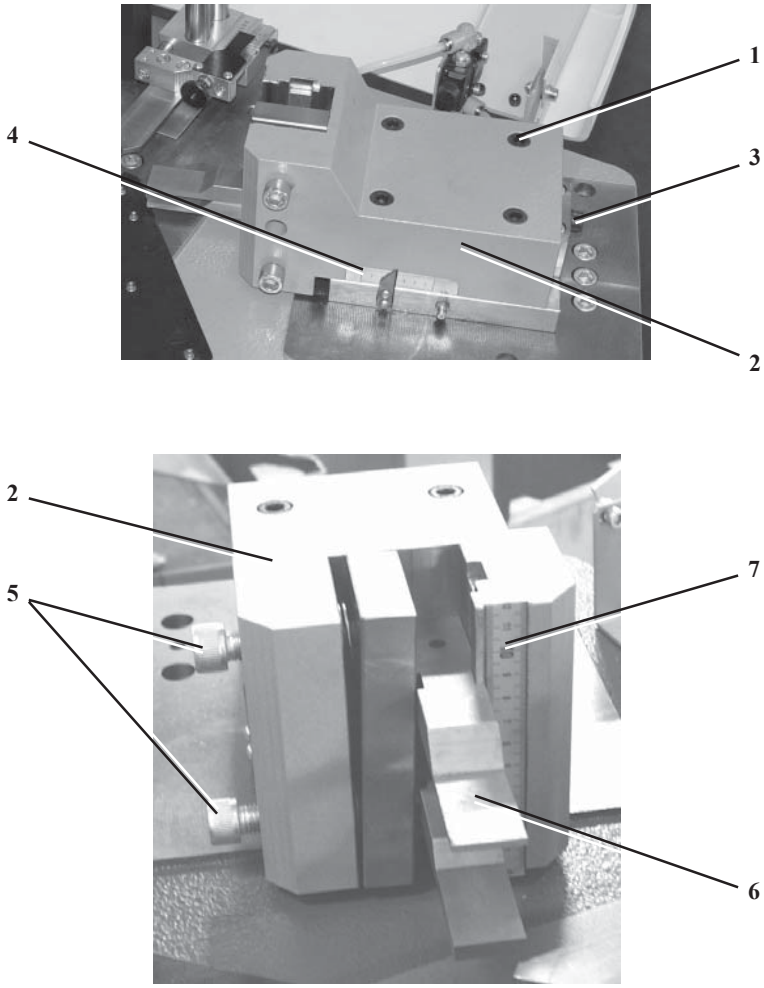


Fig. 5.6

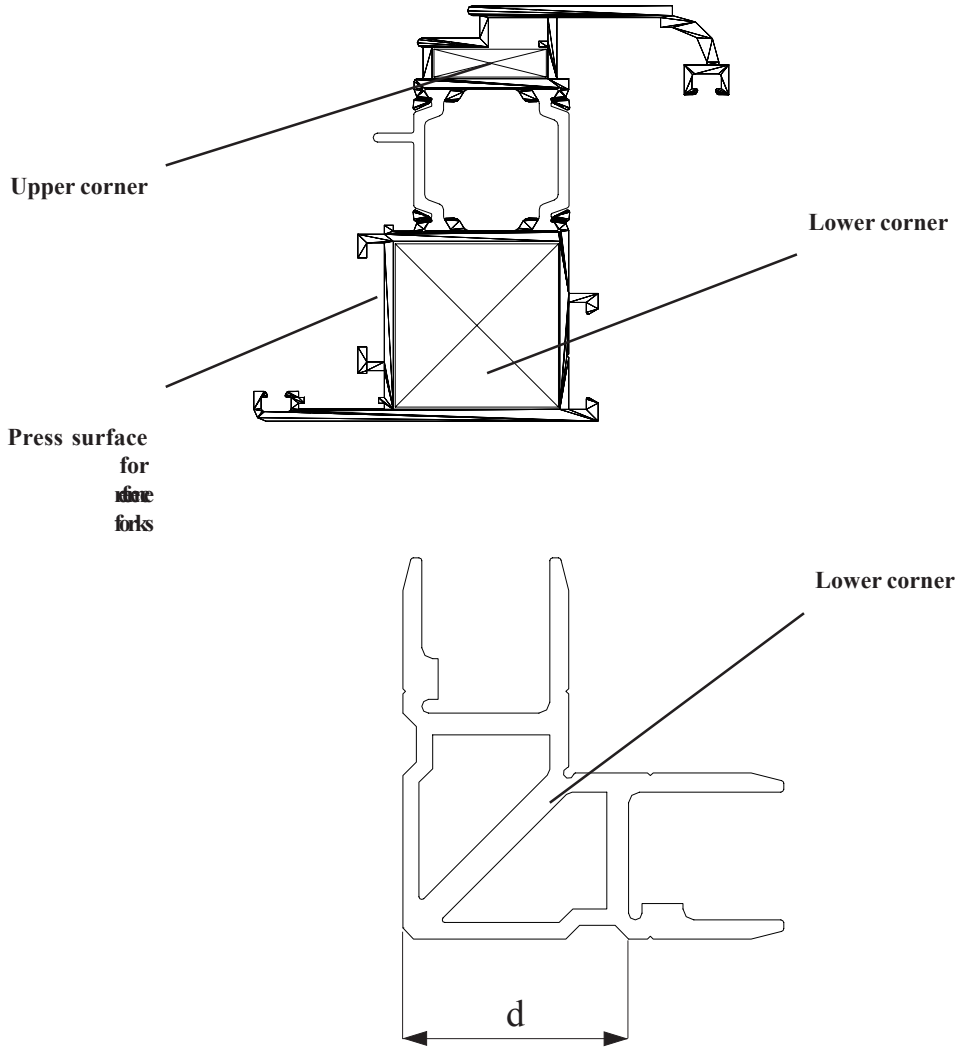

Upper corner
Lower corner
Press surface
for
fork
forks
Lower corner
d

Fig. 5.7

5.5.5 HOW TO ADJUST THE REFERENCE FORKS

— Swing the ring nut (1, fig. 5.8) to move the holder (2) of reference forks (3) till you read on the graduated scale (4) the measure that represents the distance («d», fig. 5.7) in mm from the crimping point on the corner.
— Once the measure adjusted, loose the washer (5), then move the block (6) with the small graduated scale till zero on this scale (6) corresponds with the adjusted value; then lock the washer (5).
— Swing again the ring nut (1) till you read on the scale of sliding block the adjustment value calculated as follows:

Regulation value = profile wall thickness + clearance between profile and inside corner

— Position a sample profile against the reference forks (3).
— Adjust the height of reference forks (3) by swinging the ring nut (7)until they are aligned with the profile, around the middle of the lower corner's chamber (fig. 5.7).
— Remove the sample profile and close the safety guard.

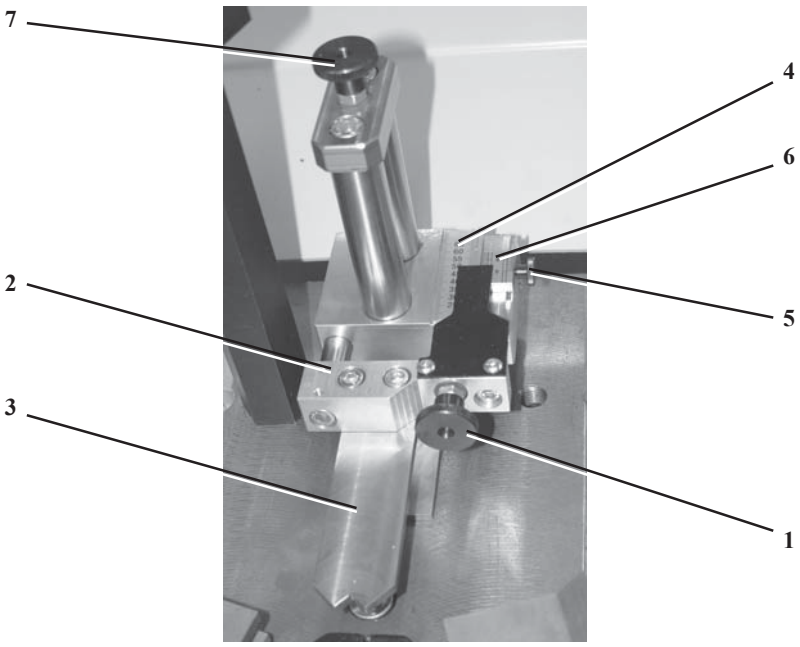


Fig. 5.8

6 GUIDELINES FOR SAFE USE

6.1 General

The crimping machine GAMMA is designed and constructed in compliance with the relevant CE Directives and the harmonized safety standards. Therefore, risks have been eliminated or reduced as far as possible during the designing and constructing of the machine, furthermore, these instructions inform the user about every residual risk. In case of malfunctions not foreseen, nor foreseeable in these instructions, please, contact ATLA COOP before operating again with the machine.

6.2 Safety devices

Because of the very simple operating of the machine, there is no software in it. The crimping machine is operated exclusively by means of the foot pedals. All control devices (pedals) are pneumatic controlled as there is no electric system.

Turning off the machine is operated directly by the foot pedals, since all the operations are activated by the operator step-by-step (forward movement of bracing clamp, crimping). For this reason the machine is not equipped with emergency stop nor stop. The crimping cycle (forward movement of knives and of vertical cylinder for clamping) is controlled by the monostable pedal; with releasing of pedal the operation is aborted (all the units move back to their home position and this movement can not cause risks). As regards the forward movement of the bracing clamp, it is controlled by the pedal but can be blocked in the ON position (bracing clamp still in forward position); the last pedal is operating only by the closed safety guard.

Turning off the machine at the end of the work shift (interruption of power supply to the machine) is reached by disconnecting of pneumatic supply from the relevant connection (quick coupling).

! ! ! WARNING ! ! !

Introduction of the new devices or modification of those existing must be authorized by the company ATLA COOP. ATLA COOP shall not be liable for any modification introduced without her authorization.

6.3 Protective devices

The machine is equipped with fixed guards and interlocking protective devices (safety guards). The fixed guards are made of sheet iron. The interlocking protective device (safety guard) is made of glass and sheet iron in order to allow the visibility of the production process also by closed safety guard. The interlocking protective device is pneumatic. The opening of the safety guard gives a stop command to the pedal for moving the bracing clamp while the other monostable pedal remains operating.

! ! ! WARNING ! ! !

Do not interfere in the area of the bracing clamp movement, by opening of safety guard the clamp goes forward automatically without re-enterring in the machine bed.

6.4 Personal Protection Equipment

The user is not under obligation to have some personal protection equipment during the operations on the machine.

6.4 Residual risks

This section is intended to draw attention to the residual risks related to the operations to be carried out by the user/operator.

— during the crimping (movement of knives and vertical cylinder) still persists the crush hazard between the vertical cylinder and the profile; the operator must follow the following instructions (the movement is controlled by a monostable pedal, max. stroke of clamp is 60 mm):
  - before crimping the plunger of vertical cylinder must be not more than 4 mm from the upper surface of profile,
  - in case of test without profile for the setup of the machine the operator must position the vertical cylinder and move it left far from the work area;

— during the crimping (movement of knives and vertical clamp) still persists the crush hazard between the knives and the profile (in particular when the operator makes crimping tests with the opened protective devices); therefore the user must never interfere inside the knives area. (the movement is controlled by a monostable pedal, max. stroke of knives is 12 mm);

— during the clamp rotation when the clamp goes out from the machine bed and especially when she re-enters still persists the crush hazard between the clamp side and the borders of worktable; for this reason never hold the hands next to the clamp during the rotation (the rotation takes place exclusively with the closed safety guard);

— it is strictly forbidden to work on the machine for more than one operator at a time.

7 MAINTENANCE

7.1 General

This section describes the routine and remedial maintenance operations to be carried out on the machine and contains useful information about possible working defects you might encounter while operating the machine. Routine maintenance operations are planned interventions to be regularly carried out, whereas remedial maintenance operations are interventions to be carried out in order to restore the correct machine working after ruptures, failures and/or malfunctionning.

7.2 Routine maintenance

To maintain perfect performance and efficiency of the machine you must carry out the maintenance operations planned by the manufacturer according to the machine operating time. The observance of the programme below reduced the possibility of defects, malfunctionning or failures. The table below is a list of maintenance operations to be regularly carried out with the indication of the operation frequency and the description of the procedure.

! ! ! WARNING ! ! !

Before carring out any maintenance operations (unless otherwise stated), disconnect the machine from the pneumatic supply (disconnecting the air pipe from the quick coupling).

FREQUENCY	OPERATION
Daily	Outside and inside cleaning of the machine
Monthly	Condensate drainage from the air regulator
Six-monthly	Control the oil level in the air regulator and if necessery fill up (oil for pneumatic circuits)
Six-monthly	Lubrification of the machine

7.2.1 HOW TO CLEAN THE MACHINE

Clean the whole outside surface of the machine and the pedals using soft cloth slightly dampened with soapy water.
Clean the worktable with an aspirator in order to remove dust and scrap .

! ! WARNING ! !

Do not use any type of solvent, such us alcohol or gasoline as they may harm the surface; do not use water jets.

7.2.2 CONDENSATE DRAINAGE FROM THE AIR REGULATOR

— The machine is in standby, connected to the dair supply: open the valve (1, fig. 7.1) in order to release possible condensate accumulated inside the tank(2) of regulator (3).
— Close the valve.

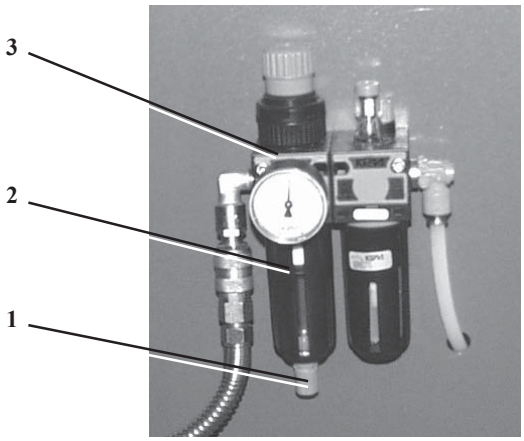


Fig. 7.1

7.2.3 CONTROL OF THE OIL LEVEL IN THE AIR REGULATOR AND FILLING UP

— Through the openings (1, fig. 7.2) of the oil tank (2) check the oil level.
— If the oil level is visible (<5 cm) it is necessary to fill the tank as described below:
— Disconnect the air pipe from the connection (quick coupling).
— Open the valve (3) in order to release possible residual air.
— With the special pin wrench grip the openings and loose the tank (2) after that take off the tank
— Fill the tank with oil (use oil for pneumatic appliances), viscosity grade VG33 (ISO 3448), we suggest SHELL-DONAX TA or similar.
— Remount everything and fasten the valve (3).

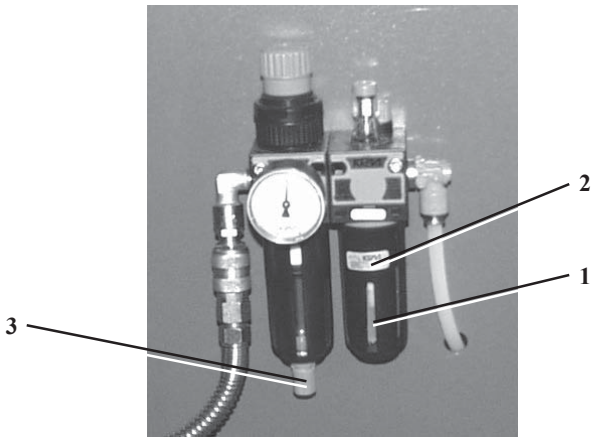


Fig. 7.2

7.2.4 HOW TO LUBRICATE THE MACHINE

— Disconnect the machine disconnecting the air pipe from the connection (quick coupling).
— Remove the fixed protective devices for access to the leverage system.
— Smear with a brush all joints with a small quantity of oil for automatic transmission (use «A.T.F.D. II° D - PERSIAN OIL» or similar).
— With a grease gun lubricate the slideways of lower slide(1, fig. 7.3) inserting greas (we suggest «MOBILUX EP2» or similar) into the relevant grease nipples (2)until fill them up.
— Remount the fixed protective devices.
— Open the upper safety guard.
— With a grease gun lubricate the slideways of crimping head (3), inserting greas (we suggest «MOBILUX EP2» or similar) into the relevant grease nipples (4) until fill them up.
— Perform the same operations for the second crimping head.

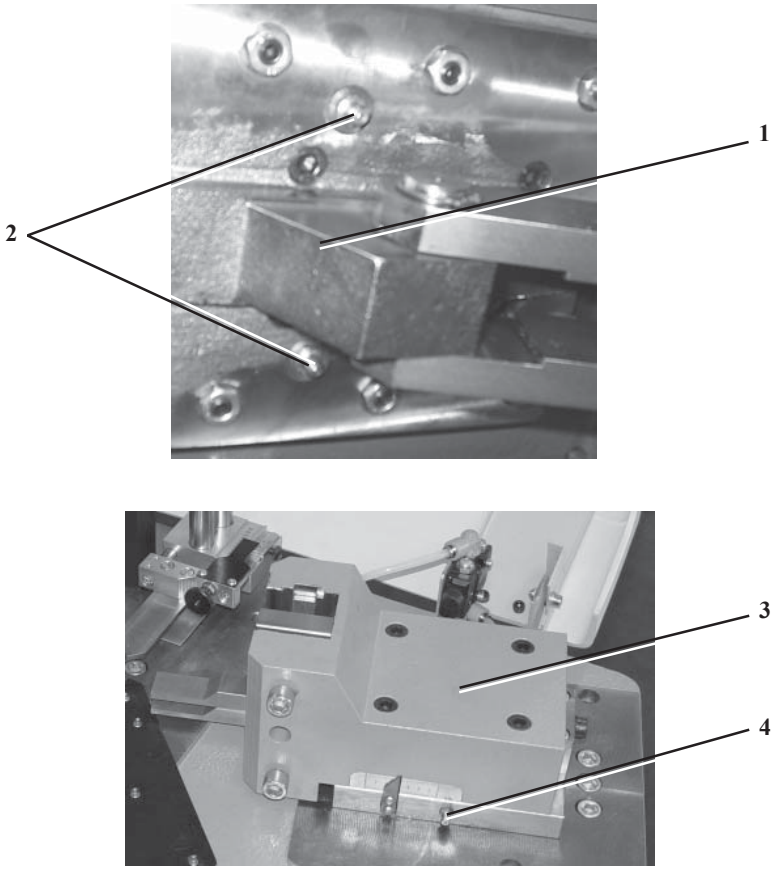


Fig. 7.3

7.3 Troubleshooting

The machine is not fitted with a software/devices fault locating system. Therefore, the user/operator must check the correct machine functioning by controlling the good quality of crimping cycle.

The machine GAMMA is designed and constructed using components and materials with controlled technical features, for this reason the failures and malfunctioning are not frequently. In case of failures not foreseen during the machine functioning, please, contact the company ATLA COOP.

7.4 Remedial maintenance

The remedial maintenance(or not programmed maintenance) permits to replace most of the machine components. See the tables enclosed in this handbook for the complete list of spare parts. In case of difficulty in replacing spare parts or in case they may not be available, please, contact ATLA COOP Assistance Service.

! ! WARNING ! !

The use of not original or not specific spare parts may cause risks and hazards not due to the machine, as they change its foreseen layout. The company ATLA COOP shall not be liable for incidental or consequential damages resulting from it.

7.5 Technical assistance

The crimping machine GAMMA service is directly carried out by ATLA COOP. Contact ATLA COOP Service dialling the following numbers:

tel. : 055 / 8498428

fax. : 055 / 8498430

8 DISMANTLING AND SCRAPPING INSTRUCTIONS

8.1 Removal of the Connections

According to the section 4.4 it is necessery to proceed previously by disconnecting the machine and in particular by disconnecting the pneumatic supply through the quick coupling provided for the purpose.

8.2 Scrapping

Once the machine is out of use it is necessary to dispose it as waste characterized by mechanical components of alloy steel, aluminium, plastic and pneumatic components, which require to be disposed through specialized firms in accordance with the regulations in force in the purchaser's country.

We recommend to differentiate the materials in order to facilitate their stocking, scrapping or recycling.

9 ENCLOSED DOCUMENTATION

9.1 List of the Documents Enclosed in this Handbook

These Operating and Maintenance Instructions of the pneumatic crimping machine GAMMA come complete with the following documents, which are separately enclosed because of the possibility of personalizing the machine operating:

—Assembly drawing with reference to the components.

The pneumatic system diagram is included in the section n° 3.