

JUMBO MANUAL and JUMBO MANUAL EC



USE AND MAINTENANCE MANUAL

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IMPORTANT NOTES FOR YOUR SAFETY

- With the JUMBO MANUAL/MANUAL EC there is a "Use and Maintenance Manual" . Read the Manual carefully to learn how to use the machine. Keep it always with the machine, it could be very useful.
- The JUMBO MANUAL/MANUAL EC must be used only by grown-up and properly trained operators. Keep the children away from the machine and he working area.
- The JUMBO MANUAL/MANUAL EC has some safety devices. Never remove or modify them. Check them periodically to be sure they work properly.
- Pay great attention while using the machine. Do not use the JUMBO MANUAL/MANUAL EC under he influence of drugs, alcoholics or medicines.
- Always work with good lighting.
- Check that the JUMBO MANUAL/MANUAL EC is properly assembled on its support stand or safely placed on a table.
- The JUMBO MANUAL/MANUAL EC is heavy. Be careful when moving it.
- Check periodically there are no loosened nuts and/or screws in the JUMBO MANUAL/MANUAL EC.
- Place the frame to be joined with care and keep the hands off the working area.
- The JUMBO MANUAL/MANUAL EC uses sharpened staples that could cause wounds. Handle the staples with care.
- Check periodically the integrity of the pneumatic and electric feeding cables. Never switch off the machine by pulling the cables.
- Before doing any maintenance on the JUMBO MANUAL/MANUAL EC always disconnect the pneumatic and the electric feeding lines.
- Once finished working, always switch the machine off.
- Don't do any maintenance to the machine if not properly trained and/or after contacting your Dealer's After Selling Service.

JUMBO JOINT MANUAL AND JUMBO JOINT MANUAL EC

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ATTENTION!: THIS MANUAL OR A COPY OF IT MUST ALWAYS BE AT OPERATOR'S DISPOSAL FOR CONSULTATION; IT HAS TO FOLLOW THE MACHINE DURING EACH DISPLACEMENT, AS ASSIGNMENT OR LENDING.

1. GENERAL SUGGESTIONS

- During unpacking and setting up operation of the machine, avoid violent pushes for preventing any damage to the electronic parts.
- Do not throw away the package, keep it for possible return of the machines for maintenance.
- Use compressed air and a wet cloth to clean the machine. Do not use alcohol or solvents especially on plastic parts, *Plexiglas* protection and manometer panel.
- Do not feed the machine before reading the instructions carefully.
- Protection parts and devices must be always in function; it is forbidden to tamper or to remove them.

2. GUARANTEE

Carefully check the machine when delivered for possible transport damages. Claims must be addressed to PILM in written within 3 days from receipt of the goods.

The machine and constructor identification label is placed on the back part of the machine.

The warranty is valid for 24 months for mechanical parts and of 12 months for pneumatic parts. The wearable parts such as hammer, plates and hold down pads and the parts that are commonly used such as pedal and locking levers will be replaced in warranty only after check and authorization of the Manufacturer. No warranty for lost parts (tool box, tools, thickness compensators, etc...).

Replacements or repairs in warranty time will not extend in any case the warranty terms.

The warranty consists in the substitution or repair of defective parts. In any case transport freight is at buyer's charge.

Direct and indirect compensations for damages are excluded.

The guarantee is not valid in the following cases:

- instructions in the present manual are not respected
- modifications are made without previous approval of the constructor
- repairs are made by unauthorized personnel
- the machine is not used properly
- original parts have been replaced with parts of a different brand.

3. SAFETY RULES



The machine is not dangerous if used properly, as described in the instructions. In any case please pay attention to the following points:

- Keep fingers away from the vertical and frontal clamps working area
- During maintenance activity disconnect the pneumatic feeding from the machine
- During setting of the machine, do keep the foot far from the pedal
- The machine has been created and built to joint mouldings using original PILM staples in stripes: each other use is strongly not suggested. PILM declines any responsibility
- PILM will have no responsibility for possible damages coming from arbitrary modifications made on the machine
- The electrical feeding of the machine must complies with the figures written in the TECHNICAL FEATURES chapter and on the machine label. The socket must be protected with a differential switch and connected with a earth ground system.



VERY IMPORTANT

THE MACHINE HAS A TRANSPARENT *PLEXIGLAS* PROTECTION IN ORDER TO AVOID FINGERS OR HANDS GETTING CLOSE TO THE WORKING AREA. SUCH PROTECTION MUST ALWAYS STAY IN ITS POSITION, PLACED APPROXIMATELY 1 cm. OVER THE MOULDING TO BE JOINED.

IF THE PROTECTION IS NOT PROPERLY CLOSED OR IF IT HAS BEEN REMOVED, THE MACHINE STOPS AND DOES NOT PROCEED WITH THE WORKING CYCLE.

4. PREMISE

Before proceeding with any operation, read carefully the following instructions.

The JUMBO MANUAL/EC is a reliable and fast machine that needs very simple maintenance. By following these instructions you will use the machine in the best way and it will always be efficient. In any case, PILM Technical Staff is always at your disposal for any request or question you should have.

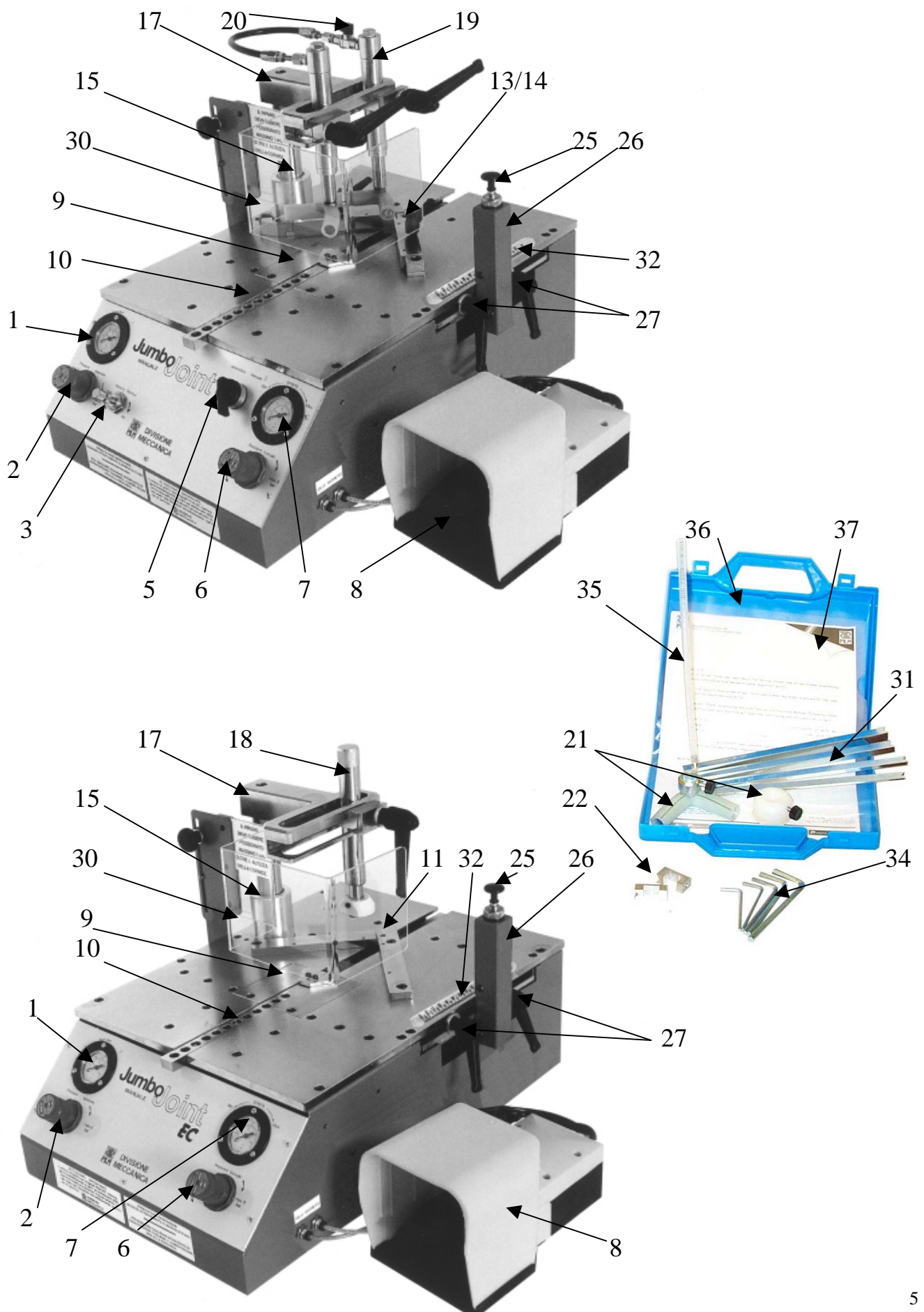
5. TECHNICAL FEATURES

DIMENSIONS	depth 55 cm., width 40 cm., total height 40 cm., working top height 17 cm.
WEIGHT	JUMBO MANUAL: 45 kg JUMBO MANUAL EC: 40 Kg.
PNEUMATIC FEEDING	lubricated and filtered pressed air min 2,5 bar max 8 bar (the lubrication filter should stay no more than 5 m. from the machine, otherwise the underpinner should be equipped with its own lubricator).
WORKING PRESSURE	minimum 2,5 bar – maximum 8 bar
TEMPERATURE	from -15° to +50°
USE	moulding angle junction with minimum height 5 mm. and maximum height 130 mm., and minimum width 5 mm. and maximum width 130 mm., using PILM staples of 4-7-10-12-15mm.
WORKING SPEED	30 cycles per minute
MATERIALS	supports and mechanical parts are made of steel treated for a long oxidation resistance. Working tops, fences, rods, etc. are treated on the surface (chromated) for a long wearproof. Driving plates and hammer are made of tempered steel. Side and central cylinders are made to grant their efficiency for a very long time.

6. ACCESSORIES

- nr. 4 thickness compensators for staples of 4-7-10-12 mm
- nr. 3 interchangeable pads: 1 round angular; 1 triangular flat; 1 round Ø40 with felt
- nr. 1 set of wrenches for maintenance
- nr. 1 magnet for loader cleaning
- nr. 2 staples pusher bosses: 1 for 4 and 7 mm., 1 for 10,12 and 15 mm.

JUMBO MANUAL and JUMBO MANUAL EC



7. DESCRIPTION OF JUMBO JOINT MANUAL AND MANUAL EC

1. Upper presser regulator
2. Upper presser adjusting manometer
3. Upper presser descent speed regulator (only for JUMBO MANUAL)
5. "AUTOMATIC-MANUAL" switch (only for JUMBO MANUAL)
6. Frontal presser regulator
7. Frontal presser regulating manometer
8. Control Pedal
9. Access Door to Punch Device
10. Bored rod with frontal presser (plate)
11. Fixed Fence (only for JUMBO MANUAL EC)
12. Register for 90° fence (only for JUMBO MANUAL)
13. Adjustable fence (optional for JUMBO MANUAL EC)
14. Adjustable fence Knobs (only for JUMBO MANUAL)
15. Upper presser Cylinder
17. Pressers support
18. Single Presser (only for JUMBO MANUAL EC)
19. Adjustable self-levelling upper pressers (optional for JUMBO MANUAL EC)
20. Locking device for upper pressers or for excluding one of them
21. Interchangeable hold down pads: triangular flat – round Ø40 – round angular L-shaped
22. Staple pusher bosses: 1 for 4 and 7 mm staples and 1 for 10-12 and 15 mm staples
23. Loader
24. Loader Tie rod
25. Pushbutton for inserting staples
26. Handle for moving the nailing head
27. A and B registers with Blocking Levers
28. Pneumatic feeding connection(min. 2,5 bar - max 8 bar)
29. Gluing device connection
30. Plexiglas protection
31. Thickness Compensators
32. Metric scale with indicator
33. Nailing Head
34. Spanners Set
35. Magnet for staples
36. Box for Tools
37. Use and Maintenance Manual



ATTENTION! VERY IMPORTANT! Before carrying out any job or operation with the machine, check that the levers placed on the presser clamps and on the registers are correctly positioned in order to avoid interferences with the moving parts and the joining frame. For Jumbo Manual all the operations described below are with the AUT/MAN switch on "Manual" mode except when otherwise specified.

8. START UP PRODUCTION



ATTENTION! Before connecting the machine to the electrical and pneumatic line read carefully this manual. Start using the machine only when the instructions are clear to avoid damages to the user or the machine.

The JUMBO MANUAL and MANUAL EC are supplied already assembled and ready to use. For the start-up they only need to be connected to the electric line and to connect the tubes of the pedal to the relevant connections according to the colours on the machine.

Herewith will be described the working cycle that, for a better learning, we suggest to repeat for some times without staples and with the frontal and upper presser at maximum distance or excluded. After pneumatic connections are made, check the pressure shown on the two manometers on the frontal panel and, without pressing the pedal, push the button on the handle and check the hammer's stroke. After releasing the A and B registers, check the smoothness of the nailing head.

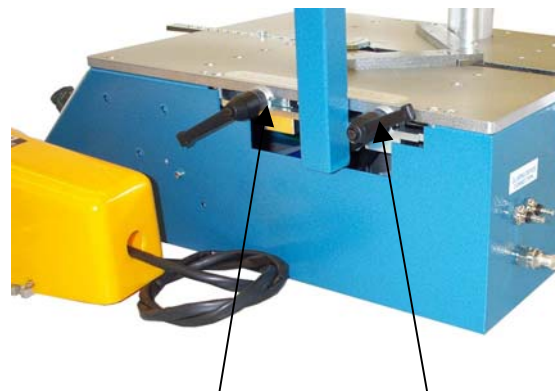
9. POSITIONING OF THE "A" AND "B" REGISTERS

STAPLE INSERTION IN ONE POSITION

If the frame allows only one staple and in one position, block the register A in the position where you want to insert the staple and move the nailing head in touch with the register by using the handle.

By pressing the pedal, the frame will be frontally and above clamped, then by pushing button on the handle the staple will be inserted.

With the JUMBO MANUAL it's possible to insert automatically one staple in one position by turning the AUT/MAN switch on AUT. By pressing the pedal, the frame will be clamped and the staple inserted. This is the ideal working cycle when you have a big quantity of frames allowing only one staple.



B register A register

STAPLE INSERTION IN TWO POSITION

After setting the A register, move the nailing head to the position in which you want to insert the second parallel staple and block the register B against the movable head itself, then move the nailing head back near to the A register.

Press the pedal: the frame will be frontally and above clamped and by pushing the button on the handle the staple will be inserted in A position; then move to B position and insert the second staple. When the cycle is over, by releasing the pedal, the original conditions will be restored and the handle must be manually moved back to A position. It's possible to insert how many staples you require between A and B positions.



ATTENTION! EVERY TIME YOU RELEASE THE PEDAL THE MACHINE STOPS WORKING AND GOES BACK TO THE ORIGINAL CONDITIONS. THIS FOR THE SAFETY OF THE OPERATOR AND OF THE FRAME TO BE JOINED.

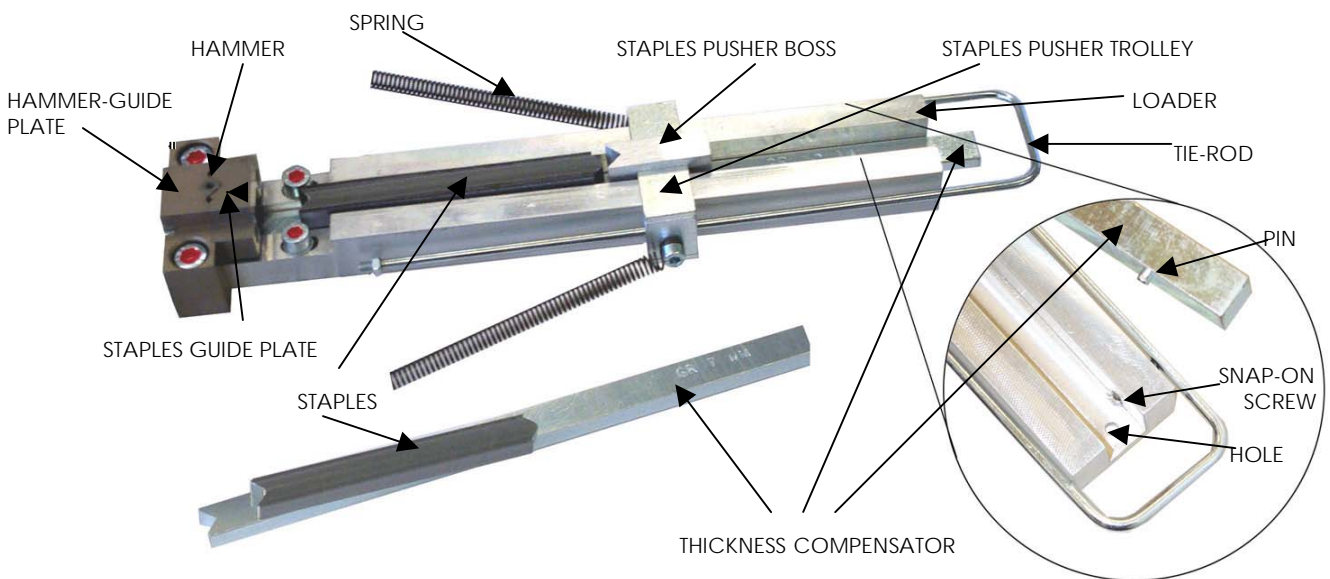
10. HOW TO LOAD AND REPLACE THE STAPLES

For the first loading of the staples proceed as follows:

verify that the loader is empty and the staple pusher boss has been removed, place the suitable thickness compensator (on each thickness compensator is written the size of the staples to use; 15 mm staples must be used without thickness compensator) and check that the pin on the thickness compensator is well inserted in the hole on the bottom of the loader. Draw back the staple pusher trolley and fill the loader with the stripes of staples being careful that the sharpened side is upward as per drawing below. Put the suitable staple pusher boss and release the tie-rod.

To put more staples in the loader, keep pulled back the staple pusher trolley and fill it with more stripes.

To change the staples size draw back the staple pusher and remove the staple pusher boss. Remove all the staples from the loader and the thickness compensator, check that the bottom of the loader is clean by using the magnet then insert another thickness compensator and proceed as written above.



THICKNESS COMPENSATOR + STAPLES ON IT = 15MM

11. ADJUSTMENT OF THE UPPER PRESSER DESCENT SPEED (only for JUMBO MANUAL)

Working with delicate frames such as lacquered and embossed finishing, it's important to adjust the speed of the upper presser when touching the mouldings.

By turning clockwise the knob on the frontal panel it's possible to decrease the speed, while turning the knob anti clockwise the speed increases.

It's possible to check the speed by pressing the pedal and watching the movement of the presser group. With normal frames it's possible to work at maximum speed.

Working in **AUT** mode with a low descent speed, the waiting time before the working cycle starts is longer, so it's necessary to keep the pedal pressed until the complete lift of the hammer. This waiting time is due to the pneumatic logic circuit of the machine that guarantees maximum strength and perfect clamping before inserting the staples.

12. ADJUSTMENT OF THE WORKING PRESSURE

THE JUMBO MANUAL IS EQUIPPED WITH ONE INDEPENDENT ADJUSTMENT OF THE WORKING PRESSURE BOTH OF THE UPPER PRESSER AND OF THE FRONTAL PRESSER. The average working range for the upper presser is from 2,5 atm to 8 atm and in particular low pressures 2,5 ÷ 3,5 atm for soft woods, 3,5 ÷ 8 atm for hard woods. The upper pressure should be lower for small frames and/or soft woods, higher for big mouldings and/or hard woods. To adjust: draw upward the knob of the upper presser regulator and

turn it clockwise to increase the pressure, turn anti clockwise to decrease the pressure; the manometer will indicate the variations. Once reached the required pressure, push the knob of the regulator to block it. Same operations for frontal pressure. In any case, the ideal pressure is that one allowing to insert the staple without lifting or bending the frame.



ATTENTION! THE EXACT VALUE OF THE PRESSURE MUST BE ALWAYS SET TURNING THE KNOB CLOCKWISE, THE VALUE OBTAINED BY TURNING THE KNOB ANTI CLOCKWISE IS NEVER CORRECT. THEREFORE EXCEED THE CORRECT VALUE THEN TURN CLOCKWISE TO REACH THE REQUIRED VALUE.

13. USE OF SELF-LEVELLING DOUBLE PRESSER

This device is standard for Jumbo Manual, optional for Jumbo Manual EC.

The double self-levelling upper presser clamps the moulding in two points, guaranteeing the perfect stability during staples insertion. This presser allows differences in height up to 60 mm.

This presser is indispensable for large (more than 40mm) mouldings.

At the end of the two shafts there are two hold down pads whose shape is chosen according to the frame to be joined: on the external shaft insert the flat angular hold down pad and on the inner one insert the round angular hold down pad or on both shafts put the round angular pads.

The adjustment in height is possible by loosening the locking lever so that the square pin can go out of the notch on the shaft, then moving the cylinder vertically reach the required position/height. Then let the square pin enter the relevant notch and tighten (without forcing excessively) the locking lever.

The horizontal adjustment is possible, after loosening the levers, by making each cylinder slide independently on the support guide and stopping them in the required position.

To use one single presser exclude the other presser by manually pushing it completely upward and blocking it with the regulating cock.

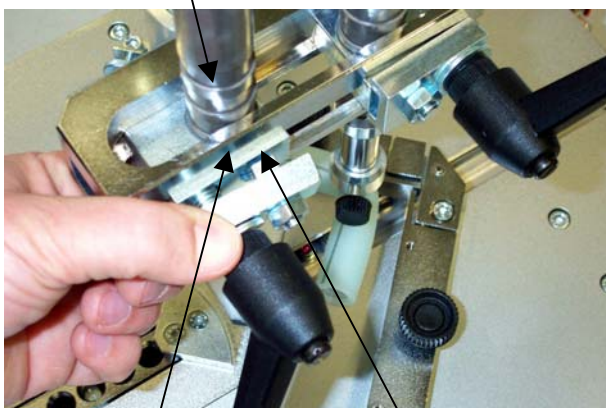


ATTENTION! WHEN WORKING WITH MEDIUM OR HARD WOODS OR VERY LARGE FRAMES, WE SUGGEST, AFTER CLAMPING THE FRAME WITH THE TWO PRESSERS, TO CLOSE THE CIRCUIT COCK TO AVOID ANY MOVEMENT DUE TO STAPLES INSERTION.

CYLINDER WITH NOTCHES

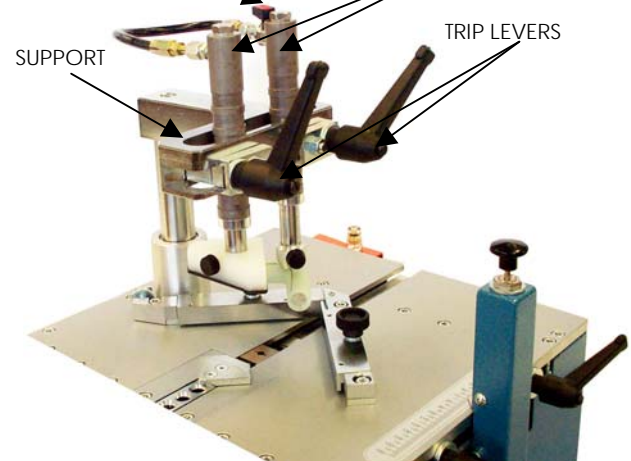
REGULATING COCK

DOUBLE SELF-LEVELLING PRESSER



CLAMP

SQUARE PIN



14. ADJUSTMENT AND USE OF SINGLE UPPER PRESSER (only for JUMBO MANUAL EC)

The Jumbo Manual EC has one single upper presser for clamping the frame. The presser is adjustable in height and the hold down pads are interchangeable. There are three different hold down pads to be used according to the moulding shape: the angular round one is for shaped mouldings, the round Ø40 one is for flat or hard wood mouldings and the flat triangular one is for wide, shaped mouldings and in particular for soft wood.

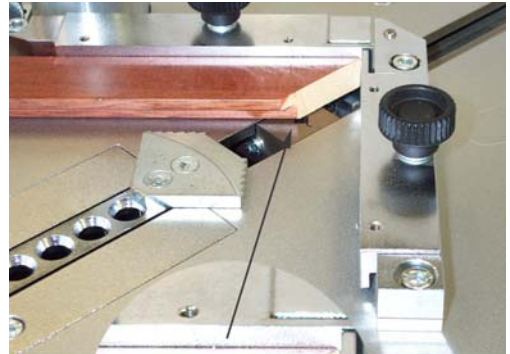
According to operator's needs, it's possible to use felts, rubbers or special hold down pads.

The presser can be adjusted both in vertical and horizontal movement: we suggest to place it at a height of 25/30mm over the frame to join and in axis with the staple insertion axis. To insert more parallel staples, place the presser in the middle area between the two insertion positions. The adjustment in height is possible by loosening the locking lever so that the square pin can go out of the notch on the shaft, then moving the cylinder vertically reach the required position/height. Then let the square pin enter the relevant notch and tighten (without forcing excessively) the locking lever. The horizontal adjustment is possible, after loosening the lever, by making the cylinder slide on the support guide and stopping it in the required position.

15. ADJUSTMENT AND USE OF FRONTAL PRESSER

The frontal presser, that operates just before the upper presser, allows a perfect joint of the frame angle: particularly, for narrow frames where the wood has to absorb the staples thickness or for big frames that are often bent, by acting on the upper and frontal pressers, it's possible to obtain perfect angles.

The positioning of the staples guide plate must be at 10/15 mm from the frame's rabbet. To change this position you have to move the drilled rod off the pivot and move it to another hole of the drilled rod itself.



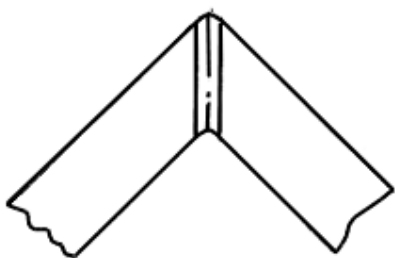
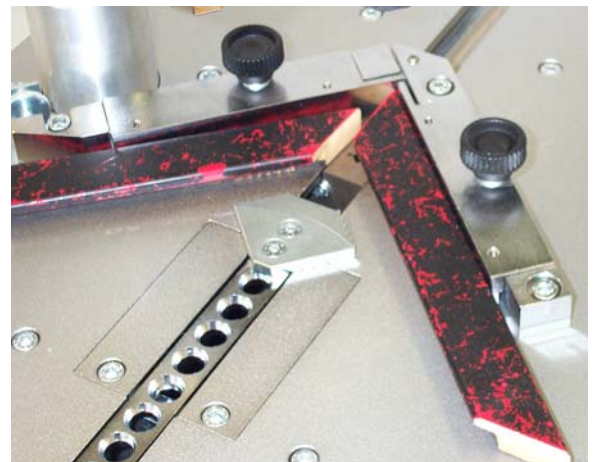
ATTENTION! Before changing the working program and the moulding to be joined, be careful to remove the drilled rod of the frontal presser from its place. Replace it only after having located the two parts of the frame against the fence.

16. ADJUSTMENT AND USE OF THE FENCE

The JUMBO MANUAL EC has a fixed 90° fence on which can be fixed the hexagonal and octagonal reductions or the fence risers for a better support.

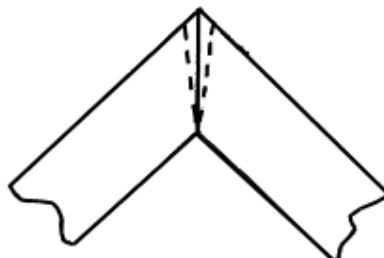
The JUMBO MANUAL is standard equipped with an adjustable fence with tilting sides (optional for JUMBO MANUAL EC).

The adjustable fence allows to increase or decrease the 90° angle of $\pm 3^\circ$; and to incline the sides in touch with the frame. In this way by using at the same time the frontal presser, it's possible to close any angle: be careful that 3 angle will be perfect but the fourth one will have all the defects of the others. These are the most frequent adjustments:



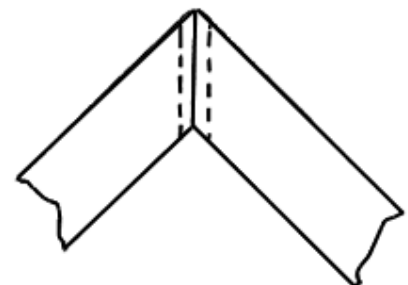
Angle open above:

Turn the small wheels to loosen
(tilt the fence sides toward inside)



Angle open below or back:

Turn the small wheels to open
or close the fence sides



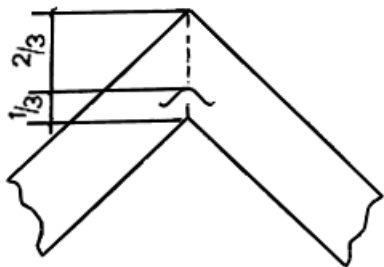
Angle open below:

Turn the small wheels to tighten
(tilt the fence sides toward outside)

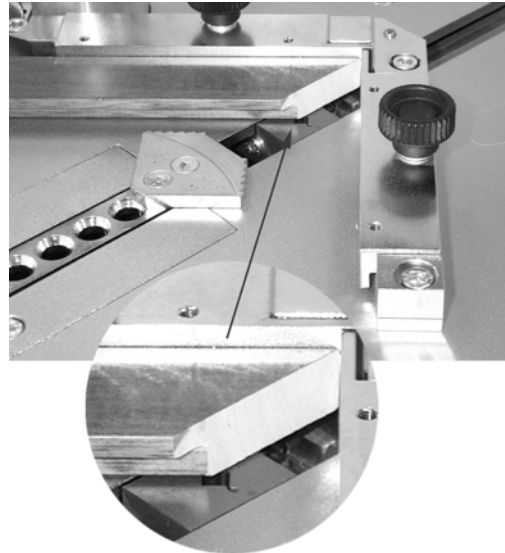
17. HOW TO JOIN A FRAME

JUNCTION WITH ONE STAPLE

Set the working pressures, set the position and choose a suitable hold down pad of upper presser, fill the loader with the suitable size of staples. Place against the fence the right part of the frame and move manually the nailing head to the required position as per drawing below. Then lock the position with the A register. Locate the frontal presser at $10 \div 15$ mm from the frame's rebate and the upper presser in axis with the staple insertion area and $30 \div 40$ mm over the frame. Place the two parts of the frame against the fence, first the right part and then the left part. After checking that the two parts fit together, step the pedal and clamp the moulding. To insert the staple press the pushbutton on the handle.



Junction with one staple



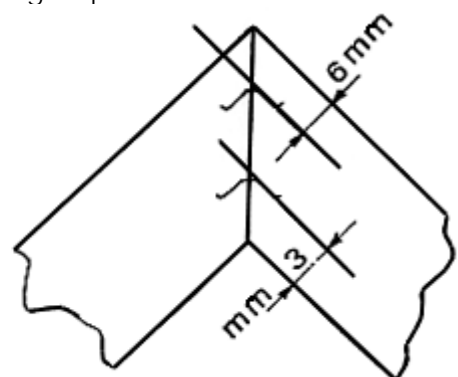
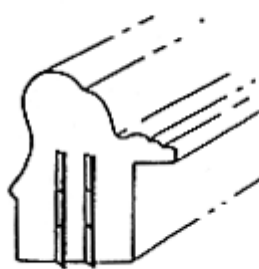
JUNCTION WITH MORE PARALLEL STAPLES

To join frames wider than 15 mm, it's necessary to insert 2 or more parallel staples to obtain a good join.

Operate as above described locking the two A and B registers in the positions as shown in the drawing below. Locate the frontal presser at $10 \div 15$ mm from the frame's rebate and the upper presser in the middle of the staples insertion area and $30 \div 40$ mm over the frame. Move the nailing head towards the first position and press the pedal. The frame will be clamped by the presser and the staples will be inserted by pushing the pushbutton on the handle. Keeping the pedal pressed move the nailing head to the second position and push again the pushbutton on the handle to insert the second staple. Between these two A and B positions, it's possible to insert as many staples as necessary just moving the nailing head and pushing the pushbutton on the handle.

JUNCTION WITH SUPERIMPOSED STAPLES

Working with frames higher than 25 mm to comply the rule that the height of the staple must always exceed the half of the moulding's height. To superimpose 2 staples follow the same operations as described in the previous chapter and, after inserting the first staple push again the pushbutton without moving the nailing head to insert the second and following staples.

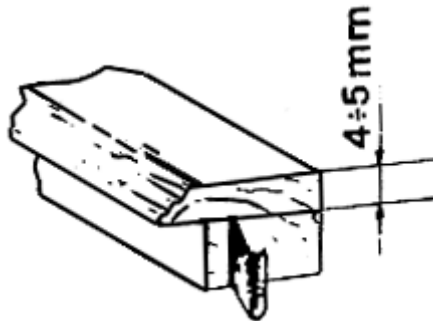


Junction with more parallel and superimposed staples

18. STAPLE CHOICE AND JUNCTION QUALITY

The junction quality depends on several factors, in particular: the accurate cutting, the correct use of the working pressures, the perfect adjustment of the fence, the thickness of the frame, the wood type and the staples type.

PILM staple has a peculiar shape fits for joining tightly the two parts of the angle. The choice of the staple's height depends on the height of the frame and must comply with the following rule generally valid for all types of wood:



The staple's height must always be 4÷5 mm. lower than the frame's height and be at least higher than half of the frame itself.

To comply with the above rule sometimes it's necessary to superimpose 2 or more staples.

The woods used to manufacture frames can be soft (i.e. SAMBA, HAIUS, etc.), medium hard (i.e. PINE, RAMIN) or hard (i.e. WALNUT, OAK, CHESTNUT, etc.).

PILM manufactures two types of staples: one with single sharpening for soft to medium woods, another one with double sharpening for hard woods.

Double sharpening staples may also be used with soft or medium woods only when it's possible to insert 2 parallel staples for a good joining quality.

When it's necessary to superimpose 2 or more staples in soft or medium woods, there are no problems with single sharpening staples of 4,7,10 mm, but there are some difficulties for 12 and 15 mm staples.

The superimposition problem is effectively solved by using double sharpening staples, keeping in mind that for soft and medium hard wood it's possible to insert parallel staples or to use glue.

PILM staples are produced with a special hard and elastic steel and with a thickness of 3/10 mm.

For small frames of 6 ÷ 8 mm, the thickness of the staple is not completely absorbed by the wood's deformation and this cause openings on the lower part of the angle. To solve this problem, we suggest to use the smallest staple as possible according to the frame to be joined, to adjust the pressure of the frontal presser and the inclination of the fence's sides, finally to insert the staple in the most inner part possible of the frame.

19. MACHINE MAINTENANCE

The high-quality and reliable **pneumatic components** of the JUMBO MANUAL/MANUAL EC normally do not need any maintenance. Anyway the working room and the compressed air type used is very important for the parts' life.

If you need to service the pneumatic components, to fix or replace them, be careful if using Teflon type to leave free the first part of the connection, in order to avoid that some small parts go inside the pneumatic components. Every 4 ÷ 5 days it's better to clean the pedal with a blow of compressed air; more often if the room is very dusty.

Every 20 ÷ 30 days do the same inside the machine with particular care to the silencer filters of the valves and to the speed regulator.

The **mechanical components** of JUMBO MANUAL/MANUAL EC are made with special surface treatments to protect from wear and rust: it's very important do not damage these parts with hard and sharpened objects or do not use solvents or diluents for cleaning. The cleaning must be done with a damp or slightly greased cloth. Clean weekly with a blow of air the guide bearings of the nailing head and remove residues from plate, fence, pad and staples insertion area if has been used glue.

HOW TO REPLACE THE HAMMER. The hammer is made with a special steel and special thermal treatments for a long life, according also to the hardness of the wood to be joined: with soft wood it's

longer, with hard woods is shorter.

The operator (better if he/she has mechanical knowledge) can replace by himself the hammer following these instructions. Without pneumatic feeding, remove the thickness compensator, the staple pusher boss and the staples from the loader.

Turn the machine on its left side - if the machine is tabletop, or work from the bottom if the machine is on a tilting stand, once the machine is turned to the vertical position.

With the bottom part of the staples inserting cylinder opened, remove the cylindrical box (sleeve) and extract the piston with its rod where is assembled the hammer. **BE CAREFUL THE LUBRICATING OIL DOESN'T LEAK OR SOIL.** By means of a clamp remove the damaged hammer, after unscrewing the pin, and replace it. Check that the hammer moves to the bottom of its seat. Fix the pin – that must completely enter - and assemble again the cylinder. Be careful not to damage the gaskets. Align the summit of the hammer on the two plates. If the hammer is correctly positioned, it must stick out of 1mm maximum. Reassemble the cylinder and restart working.

20. OPTIONAL ACCESSORIES

HEXAGONAL FENCE (120°) AND OCTAGONAL FENCE (135°)

To change the 90° fence to 120° or 135° fence proceed as follows: unscrew the fixing screws of fence risers and fix the hexagonal or octagonal fence reductions. The use is the same as described for the 90° fence.

FILTER- LUBRICATING GROUP

The **Filter-lubricator** device has these important functions:

- the filter stops all impurities coming from the compressor, the dust, the rust of the air pressed net and the humidity that may arrive to the cylinders and valves;
- the lubricator gives the correct oil quantity to the compressed air allowing a continuous lubrication of the machine's parts.

For the maintenance of the filter check each 10-15 days the condensation water into the cup. If there is water, drain it by acting on the cap of the cup itself.



ATTENTION! This operation must be done with air pressure in line!

Each 30 days, if the room is very dusty, will be necessary to clean the filter using an air blow.



ATTENTION! Be careful to disconnect the feeding line first!

For the lubricator check the oil level and add it if necessary. To do that unscrew the cup.



ATTENTION! Be careful to disconnect the feeding line first!

The adjustment of the oil quantity is done acting on the screw placed on the upper part of the lubricator: the correct regulation is one oil drop each 30-40 pedal actions (complete working cycles).



ATTENTION! THE FILTER CLEANING AND THE ADDITION OF OIL MUST BE DONE WITHOUT PRESSURE IN LINE!



ATTENTION! FOR THE RUBBER GASKETS USE ONLY HYDRAULIC OIL – NOT AGGRESSIVE!

We suggest to use oil with a viscosity of 6-8°E at 20°C. This type of oil is sold by pneumatic equipments sellers or you can order it directly to your DEALER.

GLUING DEVICE

This device has a cylinder at the end of it is screwed a glue-holder rod for small mouldings or a bored net for big mouldings. Check that the glue-holder is plunged into the cup when stepping the pedal and lifted with the pedal released.

While working with glue is always important to keep the staple-introducing area clean, in order to avoid problems with the frame closing angle or staples' jamming.

At the end of the work, we suggest to clean the glue-holder device and all dirty parts and then to close the tank hermetically using its own lid.

FLOOR STANDS

All JUMBO machines are tabletop machines or can be placed on special floor stands. The available models are the following:

- CLOSET BENCH STAND useful to store all the tools and staples. Lockable.
- OPEN FIXED STAND with two sides shelves to store the mouldings.
- TILTING STAND useful to join medium and big sized frames, with the possibility to have a wide working area. The tilting stand requires a weight balancer for the nailing head when used in inclined positions.

EXTENSION ARMS

To be assembled to both sides of the machine (both for tabletop and for stand assembled machines) to support the frame to be joined.

WIDENING WORKING TABLE

To join medium-big sized frames using the tilting stand and extension wings, it's possible to assemble a widening table to have a bigger working surface to support the frame.

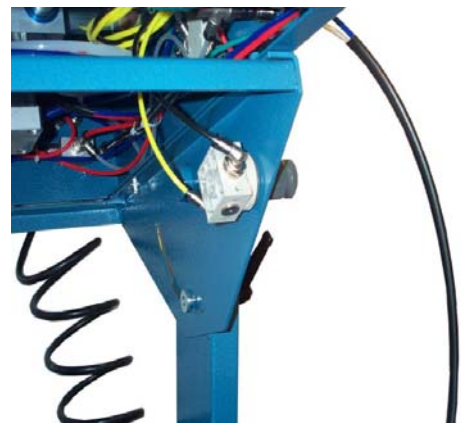
FLEXIBLE HALOGENOUS LAMP

Suitable for all PILM machines. Perfect to light up the working area. Its flexibility allows to reach even the less visible zones.

THE BALANCER

If the JUMBO MANUAL/MANUAL EC is assembled on a tilting stand it highly recommended to use a balancer to balance the weight of the nailing head in every tilted position. In this way the nailing head will always move smoothly and easily and will insert perfectly also superimposed staples.

HOW TO ASSEMBLE THE BALANCER: after assembling the machine on the tilting stand, cut the clips that fasten the tubes and the pressure regulator. Insert and fix the pressure regulator into the hole on the tilting side of the stand (see picture 1).



Picture 1

HOW TO WORK: The balancing function is given by acting on the pressure regulator: increasing the pressure for a bigger inclination of the stand, decreasing the pressure for a smaller inclination. The perfect pressure for a certain inclination is that one that keeps the nailing head perfectly in balance. It means that you can release the handle in anywhere along the stroke and the nailing head won't move. Of course when working on horizontal position the pressure regulator must be set on zero.

21. WHAT TO DO IF... PROBLEMS AND SOLUTIONS

1 – MACHINE CONNECTED TO THE PNEUMATIC LINE – THERE IS A CONTINUOUS BLOW

- Search if there is a leak in the machine's circuit, it can be a loosened connection or a pipe not perfectly connected. Fare la verifica delle perdite anche eseguendo un ciclo di lavoro.
- The leak is on the pressure regulators, that are at the maximum of the stroke. Adjust the regulators below 8 atm.
- If the blow comes from a valve inside the machine, the valve can be jammed or there is a leak between the two chambers of the cylinder: call the After Selling Service of your Dealer.
- If the blow comes from the pedal, the valve of the pedal can be jammed or the connection pedal-machine is not correct.

2 – STEPPING THE PEDAL THE MANOMETER DOESN'T SHOW ANY PRESSURE EVEN THOUGH THERE IS PRESSURE IN LINE

- Check that the pressure regulator is not on 0 position.
- Check to have pressure in feeding line.
- Regulator or manometer damaged.

3 – STEPPING THE PEDAL THE UPPER PRESSER DOESN'T LOWER AND THE MACHINE DOESN'T WORK

- Check that the Plexiglas shield is correctly positioned and fixed so that it can operate the safety valve (only for machines complying with CE norms).
- The safety valve of the Plexiglas shield or the safety valve of the circuit can be damaged: call the After Selling Service of your Dealer (only for CE rules complying machines).
- The regulator of descent's speed of the upper presser is in 0 position.
- The control valve is broken.

4 – THE HAMMER DOESN'T COME UP

With AUT/MAN switch on MANUAL, check if:

- The stripe of staples has been incorrectly positioned.
- Under the plates there is something, for example some staples; to do that, open the inspection lids, check the area and test the hammer's exit only with the handle pushbutton (without stepping the pedal) . To clean use only a blow of air and the magnet supplied with the machine. WE SUGGEST TO CLEAN THE MACHINE WITH A BLOW OF AIR EVERY DAY AFTER WORKING. IF YOU WORK WITH GLUE, CLEAN THE RESIDUES OF GLUE FROM WORKING PLATE. FENCE, STAPLES EXIT ARE AND HOLD-DOWN PADS USED.
- Pressure in line is lower than 2,5 bar.
- The control valve of the handle is broken.

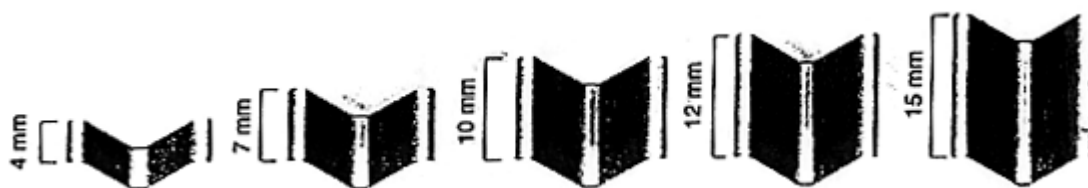
5 – THE STAPLE DOESN'T COME OUT EVEN IF THERE IS PRESSURE AND THERE ARE STAPLES INSIDE THE LOADER

- There is only a short stripe of staples inside the loader and the staples push boss cannot push it. Put more staples inside the loader. Please note that a minimum quantity of 1/4 of a strip is always left unused inside the loader to ease changing staples operation.
- Check if the thickness compensator used is the suitable one and correctly positioned under the stripe of staples and with the pin in its hole. If the pin comes out of its hole while working, block it better with the relevant pressing sprig at the end of the loader.
- Check if the stripe of staples is not placed upside down (see Chapter 10. HOW TO LOAD AND REPLACE THE STAPLES) and it's surely positioned under the staples guide plate.
- There is one or more staples crosswise and it prevents the staples' feeding: remove the staples and the thickness compensator, clean the area with the magnet and clean the loader with a blow of air by blowing from the exit hole of the hammer. Be sure that the area is clean before inserting again the stripe of staples.
- There is a jam caused by a bad positioning of the first staple. Loosen the screws and open the inspection doors, remove the staples guide plate and clean, **DO NEVER LOOSEN THE HAMMER GUIDE PLATE**. Assemble again the plate at the same level with the hammer guide plate.
- Glue has been used and part of it can be filtered through the exit hole of the staples. REMOVE ONLY THE STAPLES GUIDE PLATE FOLLOWING THE INSTRUCTIONS AS ABOVE DESCRIBED; CLEAN PERFECTLY AND OIL WITH AN OIL SOAKED CLOTH THE PARTS BEFORE ASSEMBLING THEM AGAIN.

- 6 – **THE MACHINE WORKS BUT THE STAPLES DOESN'T COME OUT OR DOESN'T ENTER COMPLETELY THE WOOD.**
- The stripe of staples is excessively tilted. Press it with the fingers and check if the staples pusher boss used is the suitable one.
 - The hammer is worn. This can be easily checked with hammer lifted. If necessary replace the hammer (see Chapter **19. MACHINE MAINTENANCE: HOW TO REPLACE THE HAMMER**)
 - The upper pressure is too low and the frame is lifted while inserting the staple. Increase the upper pressure.
- 7 – **ONCE SET THE REGISTERS TO INSERT STAPLES IN TWO PARALLEL POSITIONS, THE STAPLE IS INSERTED IN FIRST POSITION THEN THE MACHINE JAMS.**
- Check the frame hasn't been lifted by the staple push and part of the staple obstructs the movement of the nailing head. Increase the upper clamp pressure and check as per point 6.
- 8 – **THE NAILING HEAD JAMS ALONG ITS STROKE OR IT DOESN'T MOVE FREELY**
- There's some dirt on the axis. Turn the machine on its side and clean.
 - There's something between the trolley and the plate: remove the two inspection lids and check.
 - The handle interferes with the plate: remove it and tighten the two handle fixing screws.
 - The screws of inspection lids are loosened and the inspection lids obstruct the movement of the nailing head.
- 9 – **AFTER INSERTING THE STAPLE THE FRAME IS LIFTED, THE ANGLE IS OPEN AND THE STAPLE IS NOT COMPLETELY INSERTED IN THE WOOD.**
- The working pressure of the upper presser is too low: increase the pressure.
 - You're not using the suitable pad to keep the frame firmly locked.

THE ABOVE DESCRIBED ARE SITUATIONS THAT CAN OCCUR. FOR ANY FURTHER PROBLEM OF FUNCTIONING, LEAK, JAM AND/OR ANY STRANGE SITUATION PLEASE CALL THE AFTER SELLING SERVICE OF YOUR DEALER BEFORE TRYING TO FIX THE MACHINE BY YOURSELVES FOR YOUR SAFETY AND FOR NOT DAMAGING THE MACHINE.

23. PILM STAPLES

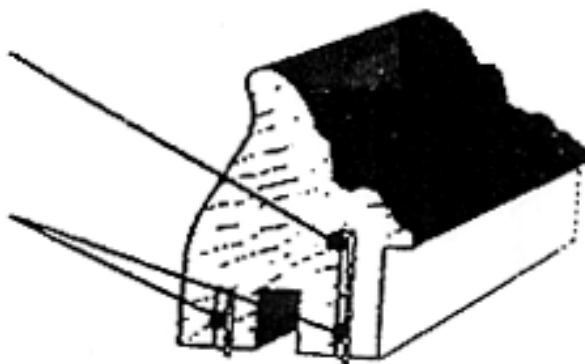


All PILM INTERNATIONAL underpinning machines use only staples patented by PILM. The special shape of PILM staples allows to joint the angle putting in traction the two pieces, in order to reach a very good quality in the joint.

PILM special staples having double sharpening edge have been created purposely for particular woods, such as strong woods as oak, walnut etc. or when it is necessary to superimpose several staples for a better result. The use of PILM double edge staples is recommended with at least two parallel staples in order to obtain a good fastening of the moulding.

SUPERIMPOSED STAPLES

PARALLEL STAPLES



NORMAL SHARPENING STAPLES

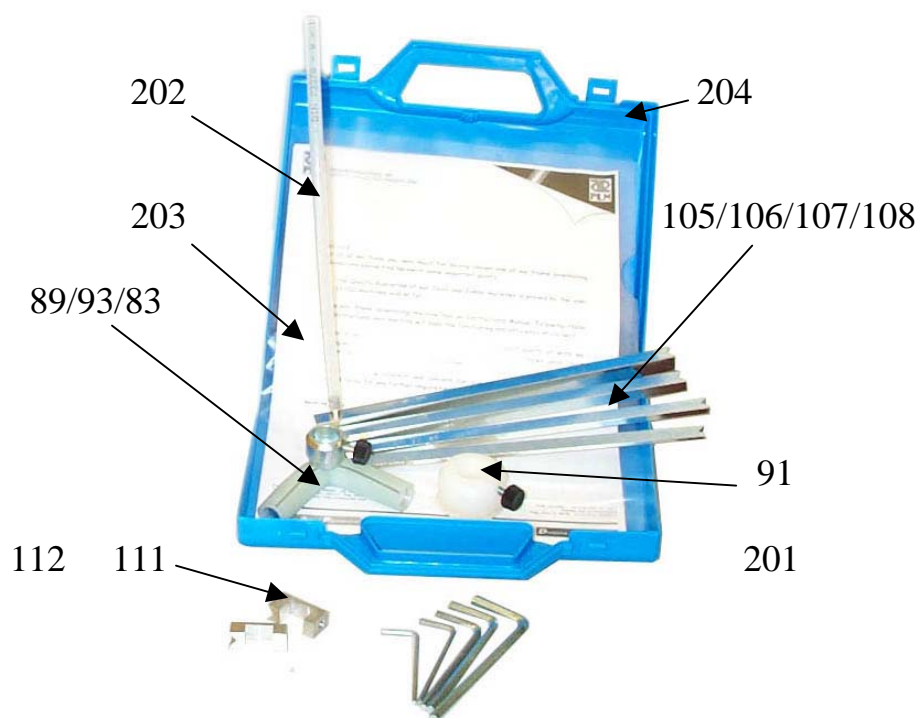
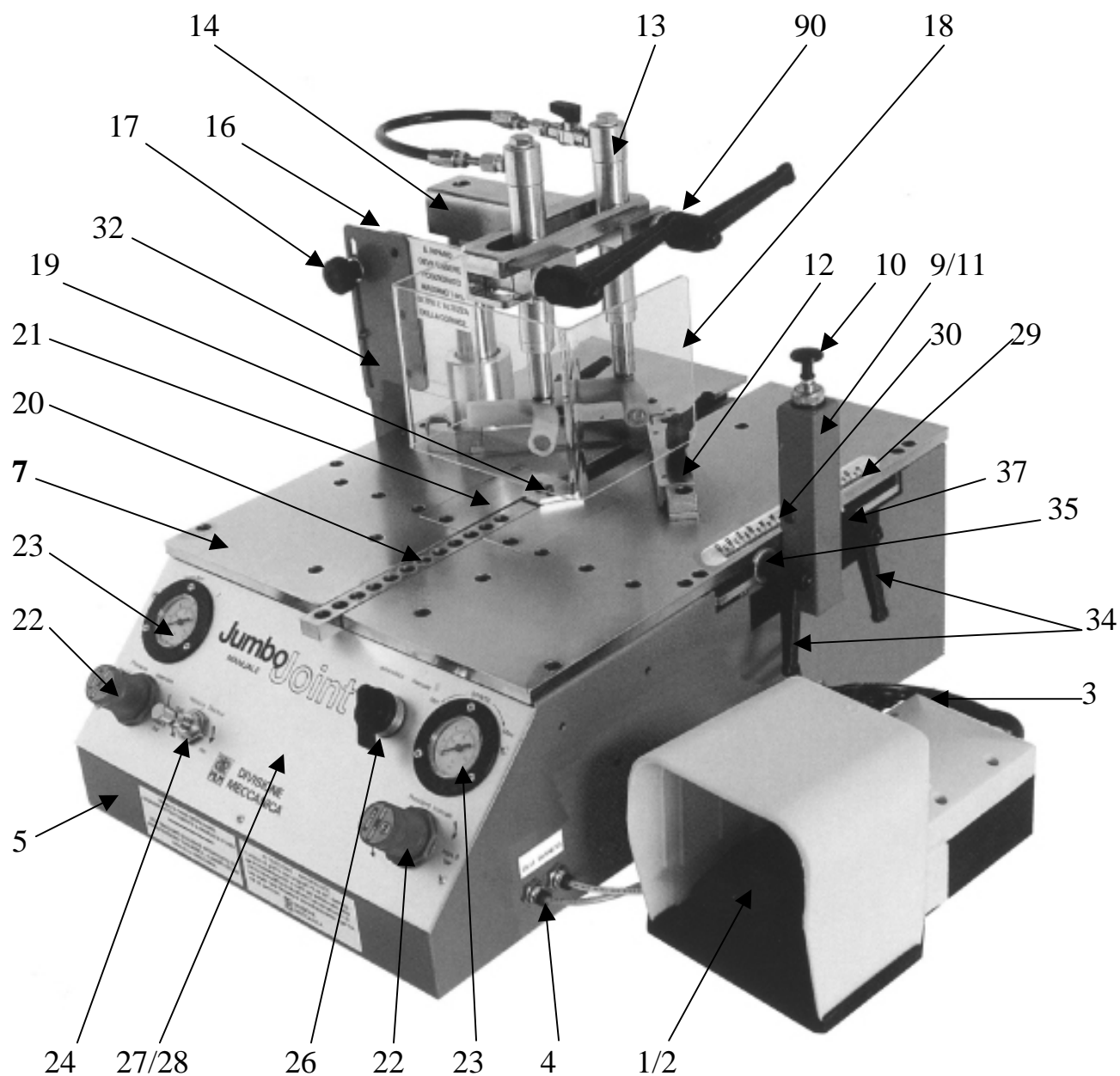
<u>Dimension</u>	<u>Pieces per box</u>	<u>Weight in Kg.</u>
4 mm.	6000 pcs.	0,800
7 mm.	4000 pcs.	0,980
10 mm.	3000 pcs.	1,000
12 mm.	3000 pcs.	1,250
15 mm.	2000 pcs.	1,000

DOUBLE SHARPENING STAPLES

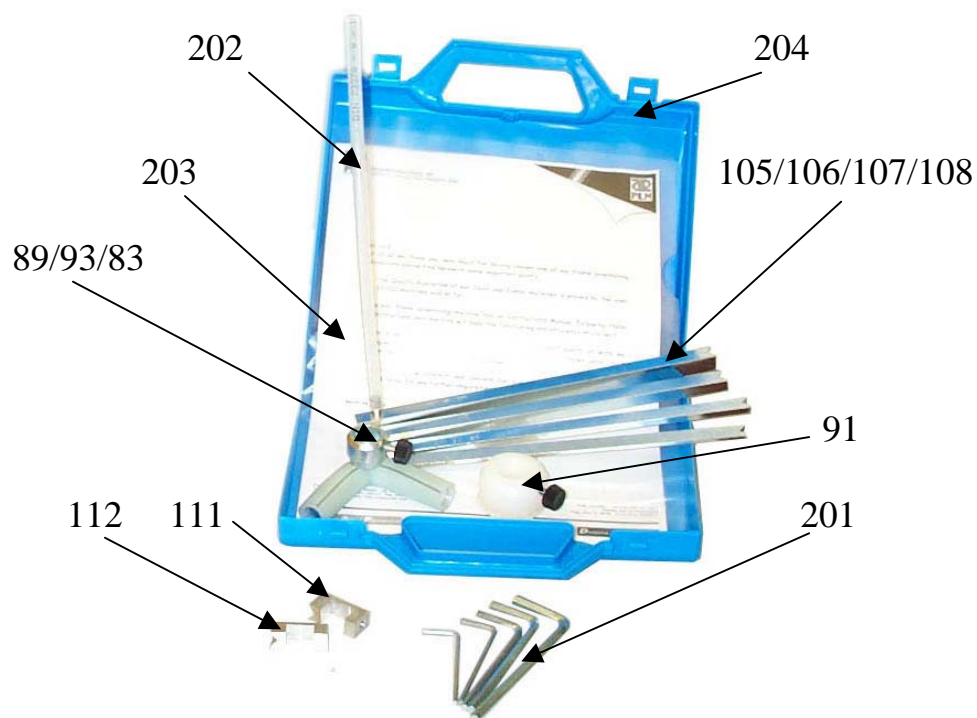
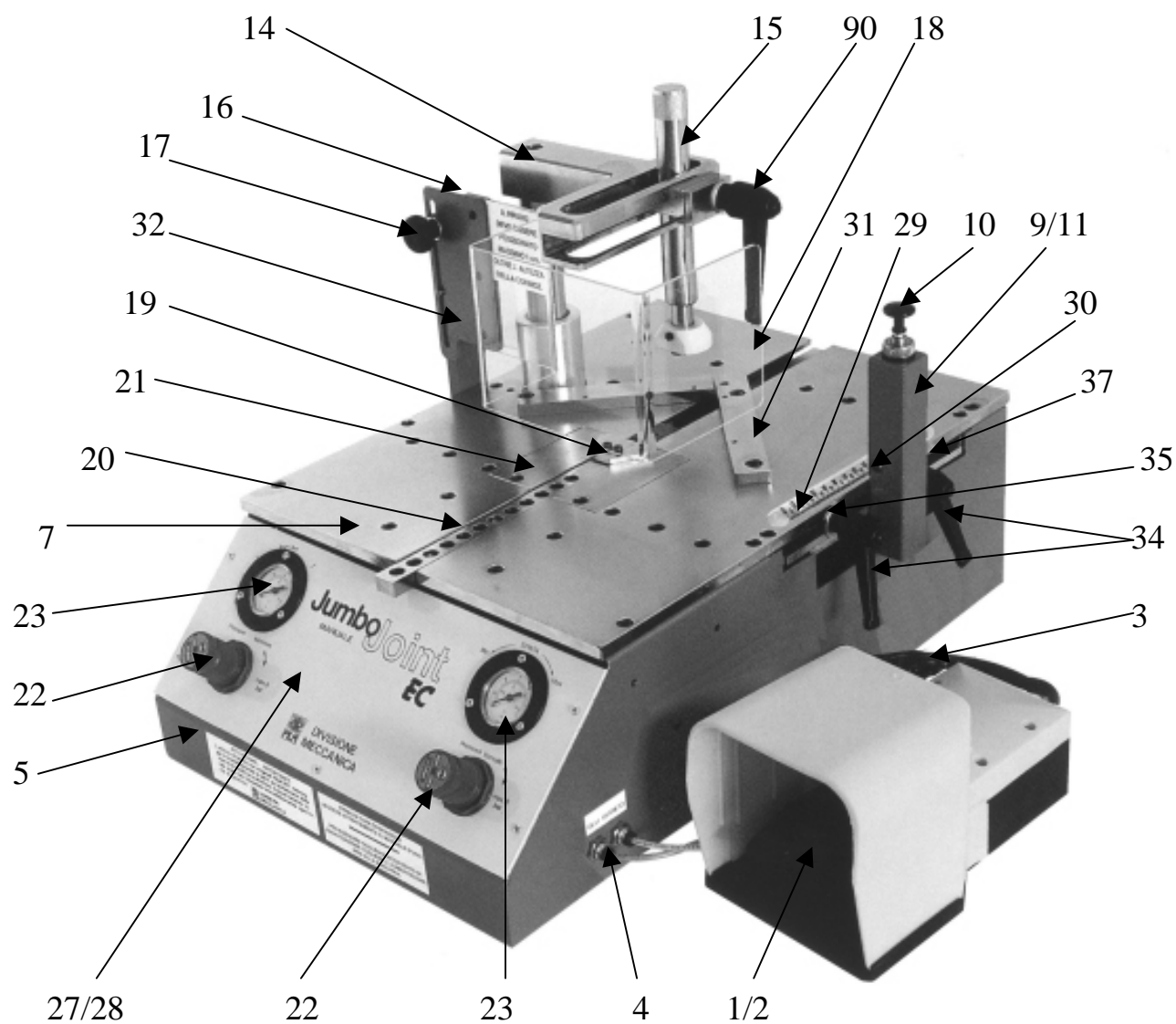
<u>Dimension</u>	<u>Pieces per box</u>	<u>Weight in Kg.</u>
7 mm.	4000 pcs.	0,980
10 mm.	3000 pcs.	1,000
12 mm.	3000 pcs.	1,250
15 mm.	2000 pcs.	1,000

Important!: every size of staples, except 15mm staples, must be used with its relevant thickness compensator so that: **thickness compensator + staples on it = 15mm**

JUMBO MANUAL - SPARE PARTS – FRONTAL VIEW



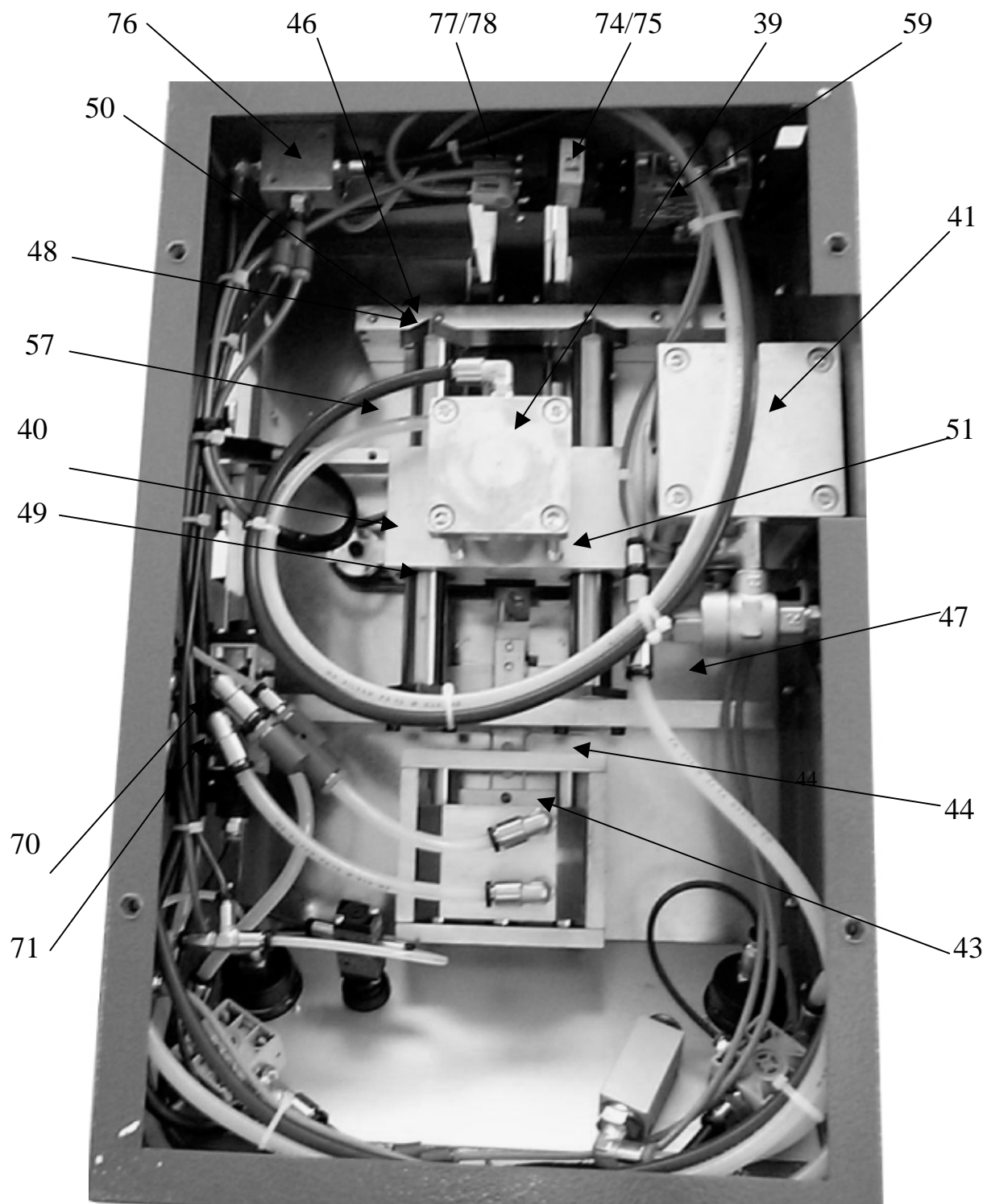
JUMBO MANUAL EC - SPARE PARTS – FRONTAL VIEW



JUMBO MANUAL/MANUAL EC - SPARE PARTS – FRONTAL VIEW

POS.	CODE	DESCRIPTION
1	PC3RC	Complete pedal for JUMBO
2	VALV3VP	3Way Pedal Valve
3	RIL4X2,5	Tubes for Pedal-Machine Couplings
4	803 4 1/8	Pedal – machine Connections
5	CONT120	120 JUMBO box
7	JPIA00	JUMBO Right and Left Working plates
9	JMAN01	Handle
10	PU001	Pushbutton with valve
11	JMAN04	Fixing Handle fork
12	SQR02	Adjustable Fence with register (optional for Jumbo Manual EC)
13	HTD0080A	Self-levelling double clamp (optional for Jumbo Manual EC)
14	JPS001	Clamps support
15	JPS005C	Presser shaft
16	R2-MA304UL	Safety valve
17	BOTM6X10	Plexiglas fixing knob
18	JPIA008	Plexiglas shield
19	PF003	Frontal clamp plate
20	JPF021	Frontal clamp drilled rod
20A	PF020	Special screw
21	JPIA010	Inspection lid
22	MRBIT 1/4 0/8	Pressure regulator
23	XXF4012C	Pressure gauge
24	9041004	Clamp's descent speed regulator only for Jumbo Manual)
26	AI3522 AM	AUT/MAN switch valve (only for Jumbo Manual)
27	CONT12EC	JUMBO frontal panel
28	TCR 2,9X10	Front panel and Pressure gauge fixing screw
29	JMAN MM	Millimetre Scale
30	JMAN15	Scale Reference on Handle
31	SQF01	90° fixed fence (only for JUMBO Manual EC)
32	JPIA082	Plexiglas support
33	JMAN12	4mm washer
34	BOTM8x25R63	M8x25 Registers' levers
35	JMAN09	Forward register
37	JMAN11	Backward register (first position)
200	CASS01	Complete Tools Box
201	BRU2,5-6	Spanners Set
202	MAGN01	Magnet
203	JMAN05	Use and Maintenance Manual
204	CAS-N	Box for Tools

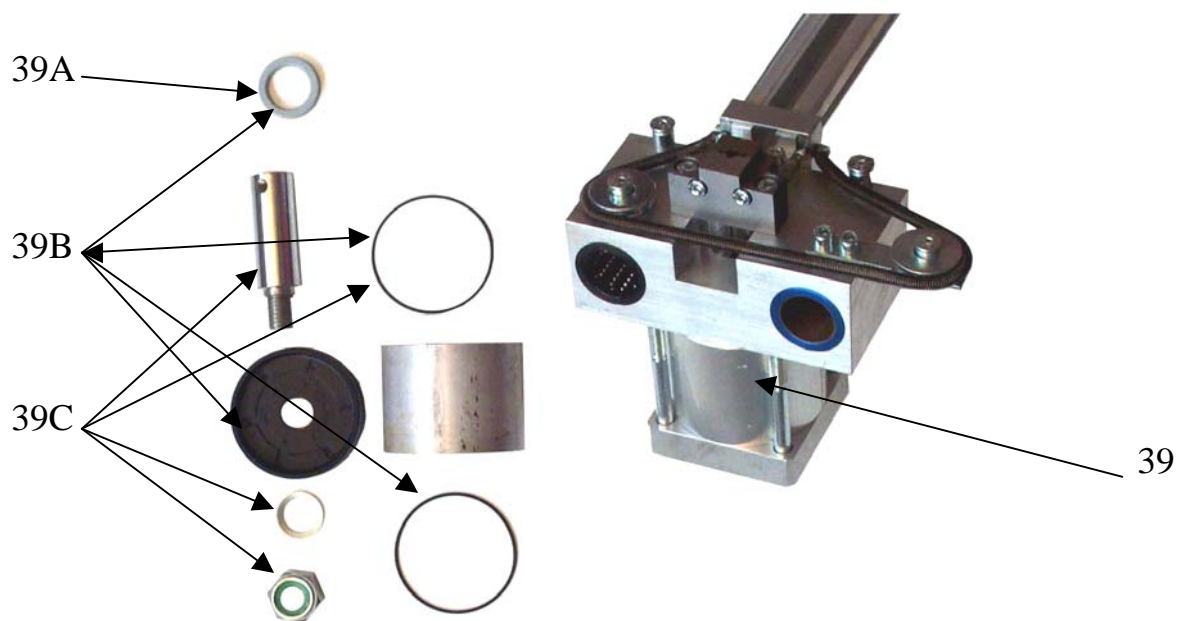
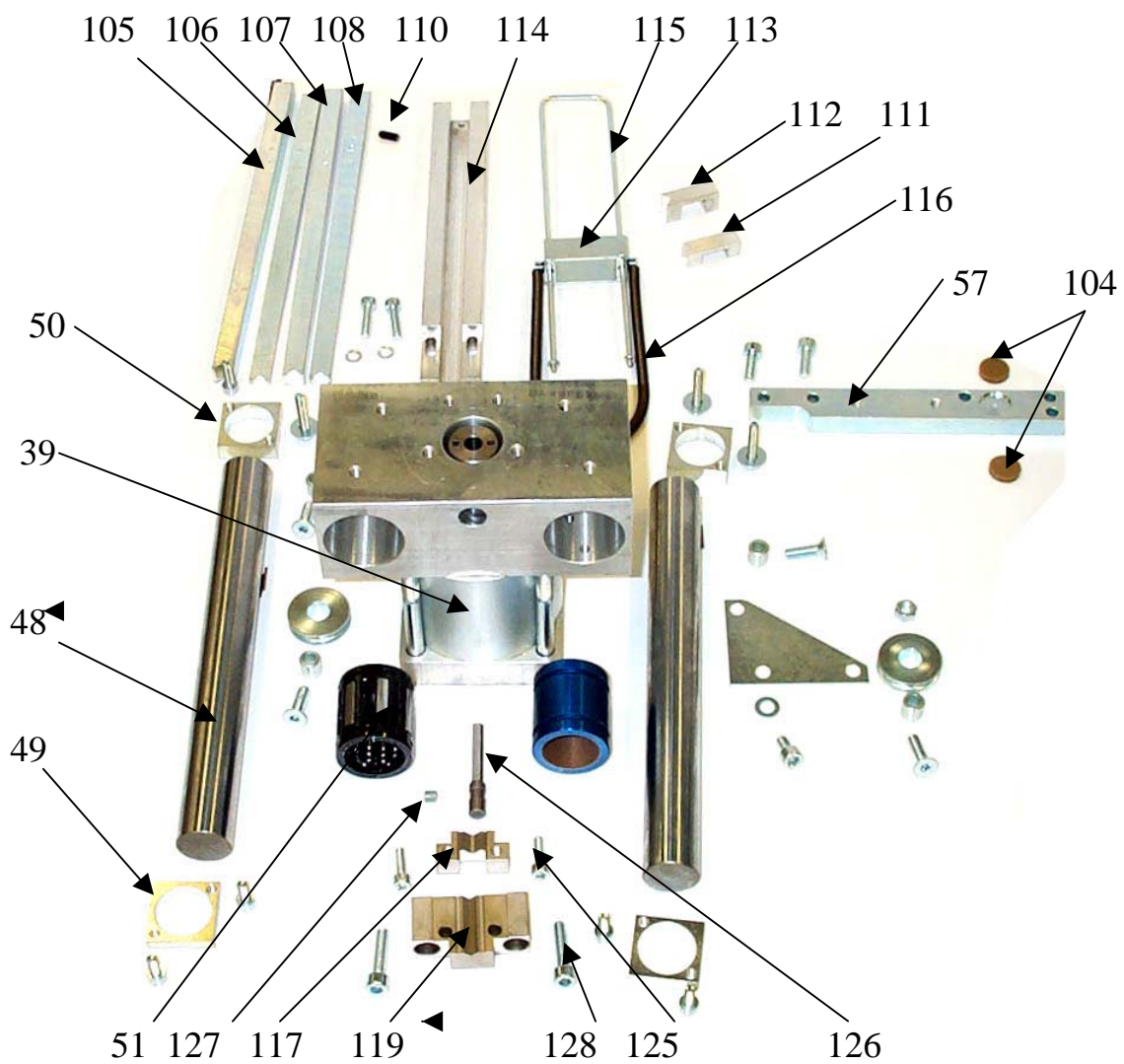
JUMBO MANUAL - SPARE PARTS - INTERNAL VIEW



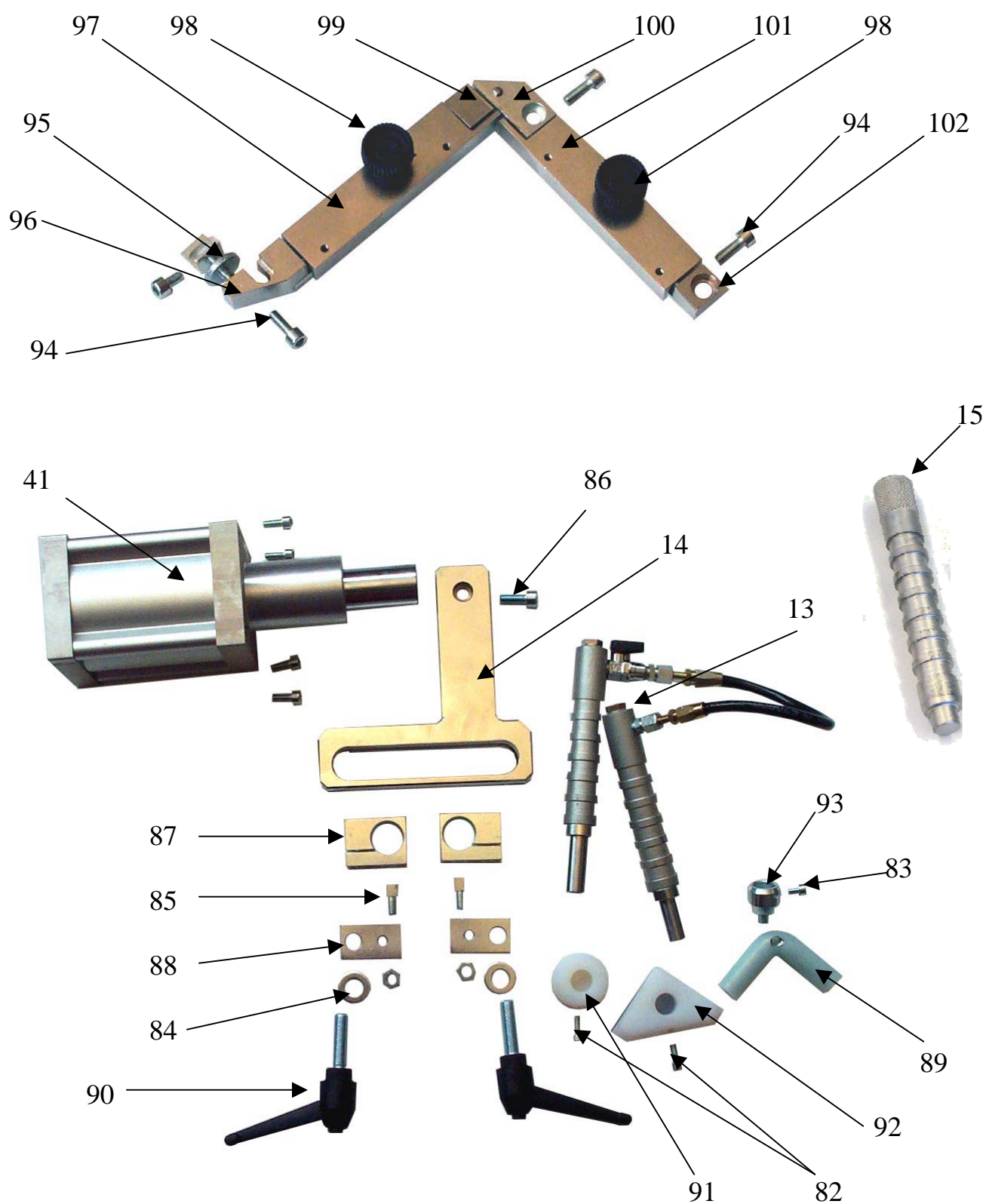
JUMBO MANUAL - SPARE PARTS - INTERNAL VIEW

POS.	CODE	DESCRIPTION
39	HTL 280A.01	Nailing head cylinder Ø70 C27
39A	MR-UPI2230	Ø70 cylinder head gasket
39B	HT-L028K2	Ø70 cylinder gaskets Set
39C	HT-L028K6	Clamp cylinder bar + Ø70 piston
40	NHJ01	Staple pusher unit with loader
41	HT-MO2000	Upper clamp cylinder Ø80 C60
41A	MR-ASR30	Ø80 cylinder head gasket
41B	HT-M020K1	Ø80 cylinder gaskets Set
41C	HT-M020K5	Clamp cylinder bar + Ø80 piston
43	50HTGO3000	Frontal Clamp Cylinder
43A	MR-NSW1620	Frontal Clamp Cylinder head gasket
43B	HT-G030K1	Frontal Clamp Cylinder Gaskets Set
43C	HT-G030K5	Frontal Clamp Cylinder Bar + Piston
44	PF016	Frontal Clamp guiding bar
46	JPIA152	Backward Crossbeam
47	JPIA153	Forward Crossbeam
48	JTES 18/25	Guiding Bar for Staple pusher unit
49	JPIA05B	Forward Supports for Guiding bars
50	JPIA05A	Backward Supports for guiding bars
51	LBBS25-2CS	Ball Sleeve
57	JMAN04A	Handle-Nailing head Crossbar
59	PNV35/AC7500	Control Valve for Staple pusher cylinder
70	PNV35/CM500	Control Valve for upper clamp cylinder
71	PNV25/CM500	Control Valve for frontal clamp cylinder
74	ZC81504025	Logical Device
75	ZC81532001	Logical Device Support
76	ZC81540001	OR Element (blue)
77	ZC81541001	END Element (green)

JUMBO MANUAL/MANUALE EC- SPARE PARTS - DETAILS



JUMBO MANUAL/MANUAL EC - SPARE PARTS - DETAILS



JUMBO MANUAL/MANUAL EC - SPARE PARTS - DETAILS

POS.	CODE	DESCRIPTION
13	HTD0080A	Self-levelling double clamp (optional for Jumbo Manual EC)
15	JPS005C	Presser Shaft
82	BOTM5x14	Presser fixing knob
83	BOTM5x7	Round angular pad fixing knob
84	12x1,5	Washer
85	JPS020C	Square pivot
86	TCEI 8x2	Fixing screw for cylinders' support
87	JPS002	Clamp
88	JPS003	Clamp Block
89	PS12A	Round angular Rubber Pad
90	BOTM12x40R83	M12x40 Click Lever
91	PS040	Ø40 Pad with felt
92	PS080	Flat angular Pad
93	PS12B	Bush for round angular Pad
94	TCEI6x16	Fence fixing screw
95	JSQ003	Adjusting Knob
96	JSQ022	Forward left support
97	JSQ026	Left half-fence
98	BOT M6x25	M6x25 Knob (optional for Jumbo Manual EC)
99	JSQ024	Backward left support (optional for Jumbo Manual EC)
100	JSQ021	Backward right support with fulcrum (optional fro Jumbo Manual EC)
101	JSQ025	Right half-fence (optional for Jumbo Manual EC)
102	JSQ023	Forward right support (optional for Jumbo Manual EC)
103	MOL7x22	Fence Spring (optional for Jumbo Manual EC)
104	G012	Noiseless Rubber
105	GP010	4mm Staples Thickness Compensator
106	GP011	7mm Staples Thickness Compensator
107	GP012	10mm Staples Thickness Compensator
108	GP013	12mm Staples Thickness Compensator
110	FPM5x10	Snap-on stop for compensator
111	GP018	4/7 mm Staple Pusher Unit
112	GP017	10/12/15 mm Staple Pusher Unit
113	SGP003	Staple Pusher Trolley for spring Loader
114	JGP006B	Loader
115	SGP02	Loader tie-rod
116	SGP008	Spring
117	JTES102	Staple-guide Plate
118	TCEI5x16	Staple-guide plate fixing screws
119	JTES101	Hammer-guide Plate
120	TCEI6x25	Hammer-guide Plate fixing screws
126	JTES105	Hammer
127	GREI6x8	Hammer fixing pin

YOUR NOTES

[illegible]