

CUT-OFF SAW

TR 350

INSTRUCTIONS AND SPARE PARTS HANDBOOK

10-10-2000



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1 GENERAL INFORMATION

1.1 PREFACE

In drawing up this manual, all the operations pertaining to normal use and regular maintenance of the machine have been taken into consideration.

Therefore, to use the machine correctly and optimally it is necessary to read the instructions contained herein carefully and to follow them meticulously.

It is advised to keep this manual in good condition, in an easily accessible place close to the machine.

Use of the machine must be entrusted exclusively to authorized and trained personnel.

It is recommended not to carry out any repair or action that is not indicated.

All operations requiring removal of parts from the machine must be assigned to authorized technical personnel.

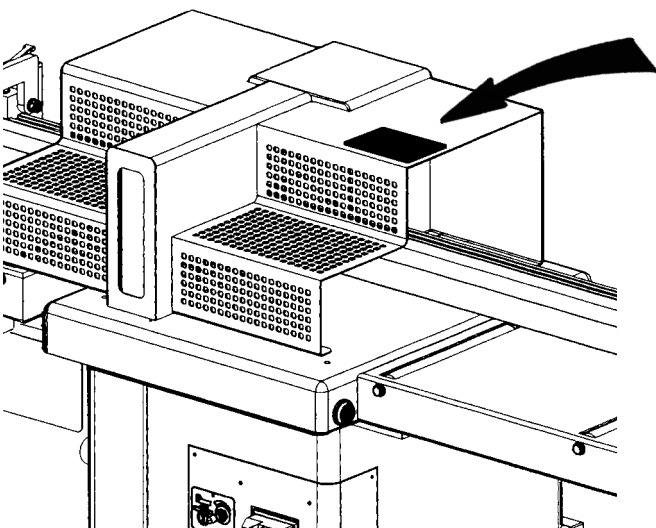
1.2 WARRANTY

Warranty consists of replacing defective mechanical parts free of charge and which will be shipped to you free at our works. It is valid for one year as of the date of our invoice and does not include the electric and electronic components. In addition, it does not cover failures or defects due to external factors, maintenance errors, improper use of the machine, using the machine while overloaded, natural wear, assembly errors, or other causes not ascribable to us. Any requests for after-sales maintenance or spare parts will have to be addressed to our authorized area dealer.

1.3 SENDING CORRESPONDENCE

For every need for written correspondence or telephone communication with the Dealer concerning the machine, it is necessary to provide the following information (points 1-2-3 can be found on the machine's rating plate on the upper guard, see Fig. 1-1):

- 1 - machine model
- 2 - serial number
- 3 - machine voltage and frequency
- 4 - date of purchase
- 5 - name of Dealer where purchased
- 6 - description of defect found, if any
- 7 - description of type of work being carried out
- 8 - hours of daily use




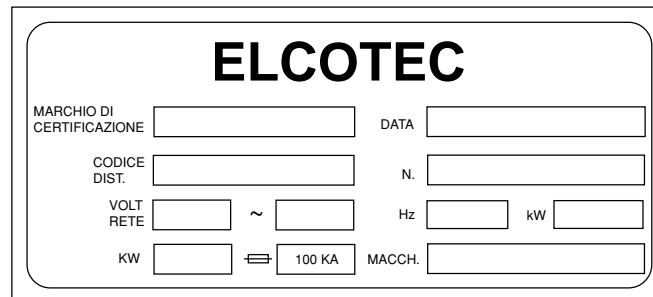
 TUCKER & VERLENDEN LLC 12909 NE 95 (superscript: th) St. Vancouver, WA USA	
MOD. _____	SERIE _____
ANNO _____	Kg. _____
⊙ MAX. _____	MIN. _____
⊙ $\frac{1}{2}$ ∅ _____	R.P.M. _____
kW _____ V. _____ A. _____ Hz. _____	

Fig. 1-1 Rating plate

For information specifically concerning the electric system, it is necessary to provide the following data given on the rating plate of Fig. 1-2 situated on the inside of the electric compartment door:

- | | |
|-------------------|--|
| 1 - SUPPLIER | Firm that made the electric system |
| 2 - DATE | Date of manufacture of the electric unit |
| 3 - BILL CODE NO. | Electric component bill number |
| 4 - No. | Wiring diagram number |
| 5 - MAINS VOLT. | Machine power supply mains voltage - Volts |
| 6 - AUX VOLT. | Auxiliary circuit power supply voltage - Volts |
| 7 - BRAKE VOLT. | Motor brake power supply voltage - Volts |
| 8 - Hz | Electric frequency - Hertz |
| 9 - kW | Power drawn by the machine |
| 10 - MACH. | Machine type |



The diagram shows a rectangular rating plate with rounded corners. At the top center, the word "ELCOTEC" is printed in a large, bold, sans-serif font. Below this, the plate is divided into several sections for data entry, each with a label and a corresponding input box:

- MARCHIO DI CERTIFICAZIONE**: A rectangular input box.
- DATA**: A rectangular input box.
- CODICE DIST.**: A rectangular input box.
- N.**: A rectangular input box.
- VOLT RETE**: A rectangular input box, followed by a tilde symbol (~) and another rectangular input box.
- Hz**: A rectangular input box, followed by the text "kW" and another rectangular input box.
- KW**: A rectangular input box, followed by a double-headed arrow symbol (⇔) and a box containing the text "100 KA".
- MACCH.**: A rectangular input box.

Fig. 1-2 Electric system rating plate

Send:

TUCKER & VERLENDEN LLC 12909 NE 95
(superscript: th) St. Vancouver, WA USA

2 MACHINE DESCRIPTION AND SPECIFICATIONS

The machine is composed of a base in thick sheet metal and a suitably beaded cast iron top to ensure stability and cutting precision over time. The machine can be equipped with roller conveyors on both the right- and left-hand sides, which may vary in length according to the customer's working requirements. They are equipped with a moving stroke reference with a millimetre rule to determine the various cutting lengths. In addition, the machine is equipped with dust extraction mouths and has noise reduction systems. The electric and pneumatic systems are made with certified materials and fitted as required by the relative standards. The machine operation control, complying with safety standards, is the two-hand type with standard push-buttons. Likewise there is electric, pneumatic and structural protection for the operator's safety. The machine is equipped with a fold-away bottom saw unit and a top wood-presser both with pneumatic control. It has the benefit of a considerable cutting speed, so it can carry out a considerable number of cuts per minute.

2.1 FORESEEN USE OF THE MACHINE AND CONTRA-INDICATIONS FOR USE

The machine has been designed and made to split or butt single planks, strips, or beams of different grades of solid wood or wood derivatives within the size limits indicated in the technical data and in compliance with the safety, use and maintenance instructions contained in this manual.



In particular, using the machine to cut overlapping pieces is excluded as locking by the presser is not certain; introduce pieces one at a time.

Cutting must be carried out with great care and attention.

The assigned personnel will need to have carried out a sufficient training period on the use and maintenance of the machine and have the minimum age required by the law in force in the relative country. Use the individual protection gear and take the precautions given in this handbook. Use any other means that may become necessary depending on the conditions of the working environment. The safety measures have been adopted in relation to the above so it is forbidden to use the machine for any other work and/or to make modifications without the manufacturer's prior consent.



In particular, using the machine to cut material other than wood and/or similar materials is excluded.

Normal operating conditions require the presence of just one operator who, after loading the piece to be cut, must remain in the area next to the machine start and stop control panel.

2.1.1 Residual risks

Normal conditions of use require the presence of just one operator who must remain in the area next to the control panel.

Remember moreover that the two-hand control protects the operator alone, so he must watch so that no other persons are close to the area with the cutting hazard.

Please also remember residual risks due to electric energy, blade misassembly and vibrations caused by unbalanced blade and/or wrong installation of the machine.

2.2 GENERAL SAFETY RECOMMENDATIONS

Always consider that using a machine tool involves certain risks: consequently, concentrate on the work to be done with the utmost attention. Remember that wood cutting machines are considered among the most dangerous due to the high speed of the tools and operations. Therefore, work in an optimum state of mind and body.

- All the safety and protection devices must be kept in a state of perfect efficiency. The rating plates giving various indications and safety recommendations must always be perfectly readable.
- It is absolutely forbidden to remove them or modify the particulars they contain.
- It is absolutely forbidden to carry out adjustments, cleaning, maintenance or otherwise while the machine is running.

2.2.1 Safety of the person operating the machine

Wear close-fitting clothes suited to the working requirements. Take off any objects or clothing (scarves, watches, bracelets, etc.) that may get caught up.

Avoid using the machine if your state of body and mind is not up to par, ie. that may reduce the speed of your reflexes or your level of attention.

2.2.2 Individual protection gear

It is recommended to use the following individual protection gear:

- Strong gloves to prevent risks of crushing, splintering and cutting while handling pieces and changing the blade.
- Goggles against splinters and/or dust.
- Anti-noise ear-muffs.
- Crush-proof footwear when handling pieces of a certain size and weight.

2.2.3 Machine safety

- Always use the extractor, even when cutting single pieces.
- In the event of trouble, never act on the machine in movement: operate the stop control and wait for it to stop completely.
- Never cut materials that may cause sparks or overheat shavings and therefore generate fires or explosions as they pass through the extraction pipes.
- Always use well sharpened and balanced blades. Before fitting them, clean the blade and flange contact surfaces carefully and check they have no dents. Sharpening must be correct, frequent and done in compliance with the angular features of the tool.
- Do not remove trimmings or dust from the tables with your hands, use a rule or another device.
- Never stand any objects on the work table.

2.2.4 Working environment safety

- Keep the working environment tidy and sufficiently well lighted.
- Arrange for spaces to store untreated and processed materials and for moving around the machine.
- Likewise, keep the floor clean from dust and sawdust. Untidiness is a synonym for accident risk.

2.2.5 Procedure for isolating the machine

- Before any maintenance, repair work or otherwise, the machine must be isolated by pushing the button of the master switch and padlocking it. Do not leave the key next to the machine.
- This must be done by the same person doing the work. If it is a simple maintenance job, this person may be the operator.
- When the machine is out of service, isolate the compressed air supply by means of the special key and apply a padlock onto the master switch .

2.2.6 During maintenance

- Regular maintenance of the mechanical and electric parts, besides extending the service life of the machine and ensuring better performance, constitutes an important safety factor.
- It is absolutely forbidden to set up mechanical parts or do maintenance work without first carrying out the isolation procedure.
- After each operation involving opening or removing protection parts, refit them checking their correct positioning and operation and that no tool or foreign body has been forgotten inside.
- Do not get on the machine.
- Wear protective gloves while changing the blade.
- Any replacement of mechanical parts must be done exclusively with genuine parts. The electric components must be the ones indicated in the list accompanying the wiring diagram, or with others having the same safety features. In case of doubt, contact the manufacturer.

Non-observance of this point forfeits the manufacturer's liability for the safety of the machine.

2.3 OVERALL DIMENSIONS OF THE MACHINE (FIG. 2-1)

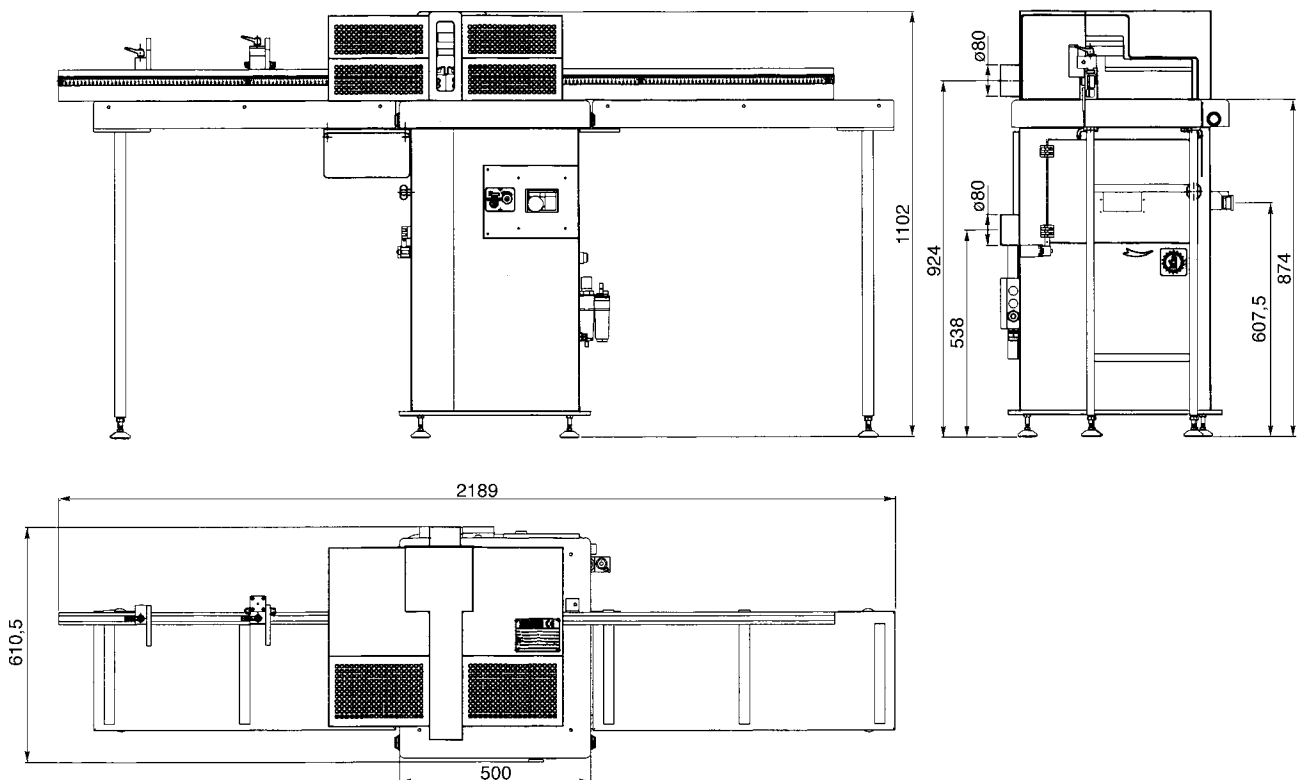


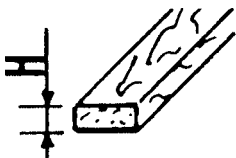
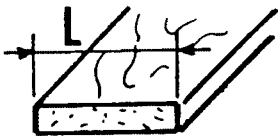
Fig. 2-1

2.4 THECNICAL PARTICULARS

Motor power	KW	2,9
Blade diameter	mm	350
Blade hole diameter	mm	30
Blade r.p.m.	n°	2890
Cutting width - with thickness 30 mm	mm	220
Cutting width - with thickness 50 mm	mm	200
Cutting width - with thickness 80 mm	mm	160
Work table height	mm	874
Feed	from RH to LH	
Overall dimensions with bench	mm	2189x610x1102
Net weight of the machine	kg	150
Gross weight of the machine	kg	180
Min. pneumatic operating pressure	bar	6
N° 2 extraction mouth	mm	Ø 80
Max air capability	m ³ /h	400
Air consumption per cycle	nl	6
Roller bench, standard version	mt	1.30 on RH - 1.0 meter on LH

CUTTING CAPACITY

Tab. 2-1 Cutting capacity with blade Ø 350

	
30 mm	220 mm
50 mm	200 mm
80 mm	160 mm

2.5 OUTFIT

2.5.1 Standard outfit

- instructions booklet complete with wiring and pneumatic diagrams
- service keys
- steel blade
- electric and pneumatic diagram

2.5.2 Optional outfit

- widia blade
- roller bench with multiple lengths from 1 to 1.5 meter according to customer's request
- manual side stroke references (normal - extended)
- pneumatic stroke references

2.6 CHOICE AND MAINTENANCE OF BLADES

(The blades must be to EN 847-1)

Blade diameter	350 mm
Blade hole diameter	30 mm
Blade tooth thickness	3.5mm

The conformation and number of teeth of the blade must be chosen in relation to the material and the thickness of the material to be cut, according to the indications given by the blade manufacturer.

Some advice for blade use and maintenance:

- check machine positioning to prevent vibration;
- if the teeth lose their edge and chip, replace the blade immediately;
- sharpen the blades with precision machines, observing the angular features;
- clean the blades often, removing incrustation by means of specific products available on the market;
- place the blades in their containers, or in special racks, to prevent them knocking against each other.

NOTE: It is advised to use blades with a shaving limiter and with an adequate number of teeth for the thickness and nature of the material to be cut.



It is forbidden to fit blades with a fixing hole > 30 and to compensate for the difference with compensation rings.

2.7 SOUND EMISSIONS

Reference standards: ISO 7960 allegato N

Characteristic data of the machine:

• Blade rotation speed::	2890	mm
• Motor power:	2.9	KW
• Power supply voltage:	380	V
• Extraction mouth diameter:	80	mm

Characteristic data of the blade:

• Diameter:	350	mm
• Number of teeth:	depending of the material to cut	
• Teetgh thickness:	3.5	mm

Operating conditions:

- At work with extraction

Thickness of pieces cut off:	20	mm
Blade feed speed:	7	m/min
Mean speed of extraction at mouth:	20	m/s

Tab. 2-2 Noise level values

	LpA	LwA	Lpc
dB(A)	93	96	84
mX(A)	/	5,8	/

LpA = mean level of acoustic radiation pressure
LwA = Level of acoustic power
Lpc = Instant level of acoustic power

Test material:

Type: softwood with no knots (beech)
Moisture: 8-14%
Length: 1000-500 mm
Width: 160 mm
Thickness: 80 mm

Results of measurements:

Uncertainty associated with the measurements=2.0 dB(A).

“The values of noise level given are levels of emission and do not necessarily represent safe operating levels. Even though there is a correlation between the level of emission and that of exposure, this cannot be used as a reliable element to establish whether it is worthwhile taking additional precautions. The factors affecting the level of exposure the labour force is subject to comprise the duration of exposure, the characteristics of the work place, any other sources of dust and noise, etc., ie. the number of machines and of other adjacent processes. Moreover, the levels of allowed exposure may vary from one country to another. This information will nonetheless allow the machine user to make a better evaluation of the risk.”

2.8 MAIN PARTS OF THE MACHINE (FIG. 2-2)

- | | |
|---|---|
| 1 - ADJUSTABLE SUPPORT FEET | 10 - PNEUMATIC STOP (OPTIONAL) |
| 2 - PRESSURE ADJUSTMENT UNIT | 11 - PNEUMATIC STOP CONTROL LEVERS (OPTIONAL) |
| 3 - WOOD-PRESSER | 12 - SPEED GOVERNOR |
| 4 - CUTTING CYCLE SYNCHRONOUS TWO-HAND TYPE CONTROL | 13 - START SWITCH |
| 5 - EMERGENCY STOP | 14 - BLADE ACCESS DOOR |
| 6 - GUARD CAGES | 15 - SAFETY MICROSWITCH |
| 7 - ROLLER BENCHES | 16 - EXTRACTION MOUTHS |
| 8 - STOP GUIDES | 17 - JUNCTION BOX |
| 9 - MANUAL STOP (OPTIONAL) | 18 - PNEUMATIC PANEL |
| | 19 - MOTOR ACCESS DOOR |

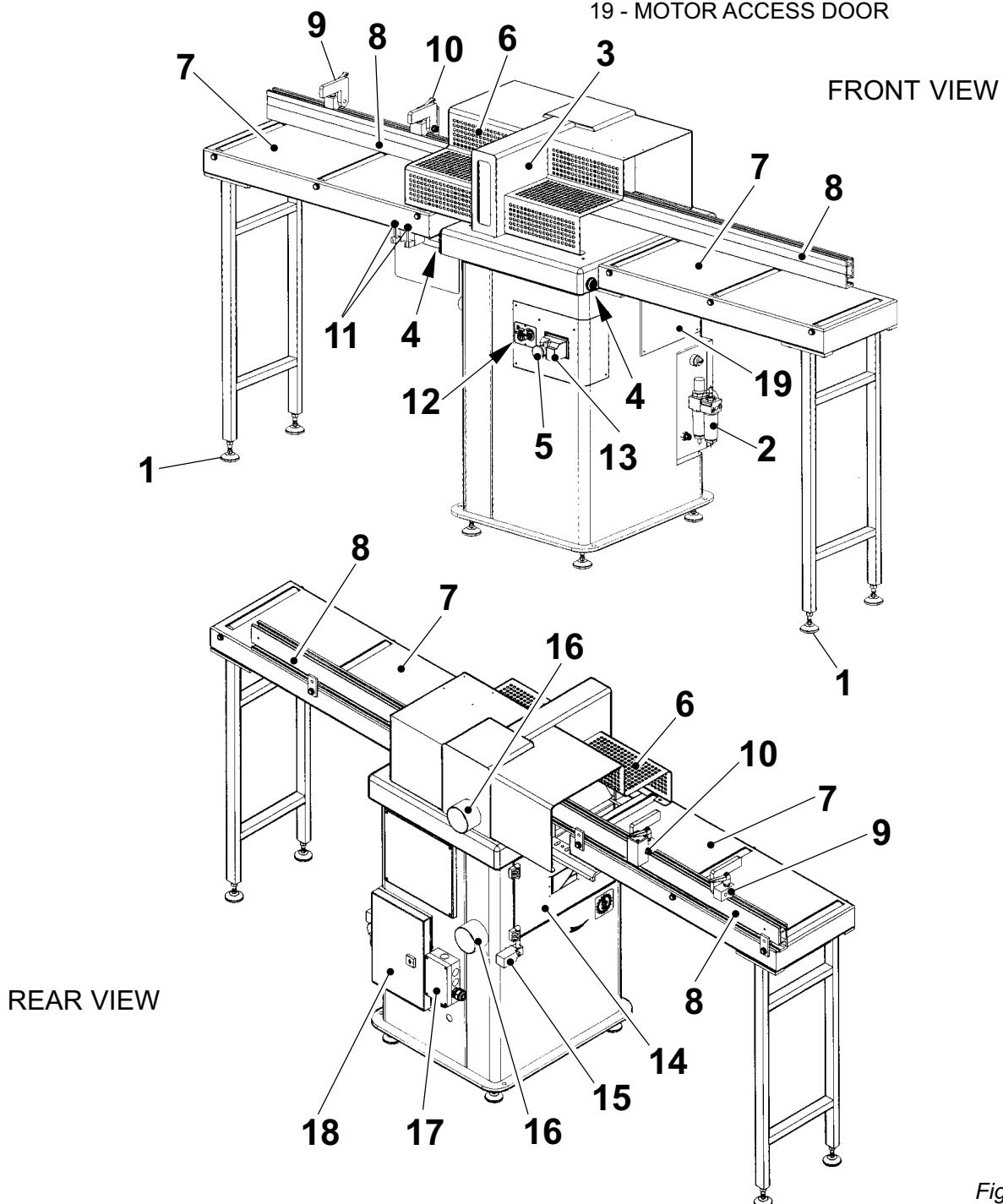


Fig. 2-2

3 INSTALLATION INSTRUCTIONS

All our machines are as a rule shipped in perfect conditions of assembly after careful internal testing. In the case of transport by sea or articulated lorry, they are packed in wooden crates or boxes and protected against oxidation with special products that have to be removed before installation. Any damage found on the machines must immediately be notified to the carrier. In addition, check there are all the standard or optional accessories.

3.1 REQUIRED SPACE (FIG. 3-1)

The figure is a schematized diagram of the area occupied by the machine and the minimum space necessary to be able to work in total safety.

- Lm = machine length 2189 mm
- Li = space required for passing and working 1800 mm depending on the length of material to cut and on the type of work to do
- Am = machine width 610 mm
- Al = space required for passing and working 1000mm depending on the length of material to cut and on the type of work to do



When cutting very long pieces, we recommend to use the outfitted table extensions.

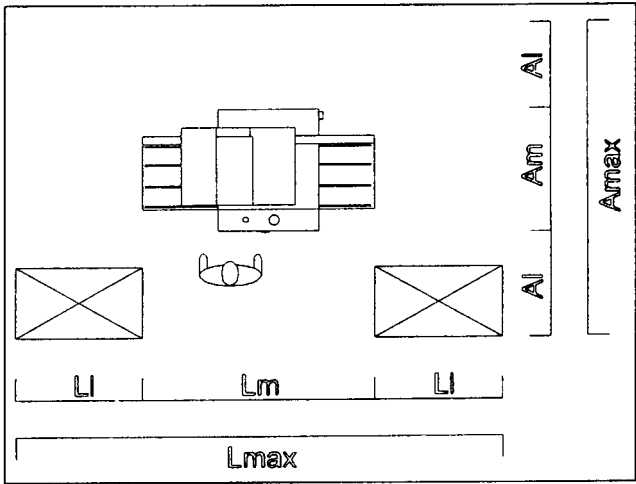


Fig. 3-1 Space required

3.2 LIFTING (Fig. 3-2)

The machine can be lifted with a transpallet or fork-lift truck inserting the forks as shown in the figure. Bear in mind that the machine weighs approximately 150 kg.



When the machines is moved, keep the load as low as possible to ensure better stability and visibility. Move slowly without any jerks. Make sure there are no people in dangerous positions.

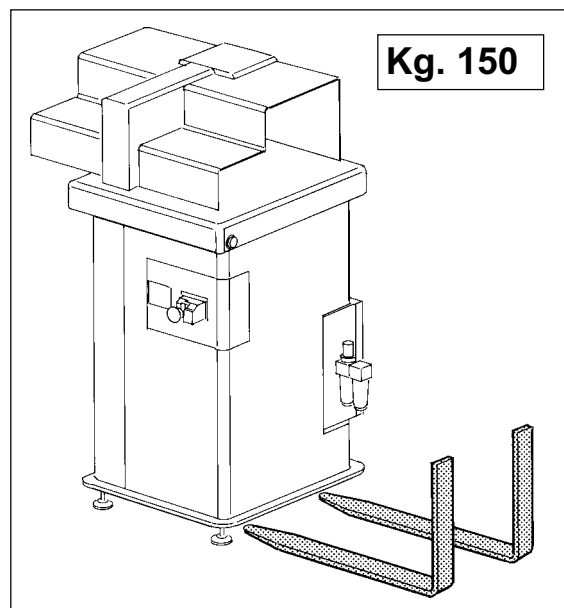


Fig. 3-2 Lifting

3.3 POSITIONING AND LEVELLING

- As soon as you receive the machine, before passing on to any other operation, it is advisable to make a general check to see that during the transport and lifting phases no damage has occurred and no screws or unions of the systems have come loose.
- The machine and the roller conveyor can be anchored to the ground by means of holes **B** or they can be stood on vibration-damping rubber feet so as to reduce both any vibration and noise transmission through solids.
- If the feet are used it is necessary to make the machine very stable. To do this it is necessary to check that all the feet Fig. 3-3 rest completely on the floor. Should this not occur, use the screws so as to create a stable and efficient support.
- Then lock the screws with the lock nut **A** Fig. 3-3 once the right position has been reached.
- In the same way it is necessary to adjust the feet of the side supporting tables Fig. 3-4 (see 4.2 ASSEMBLING AND DISASSEMBLING SIDE ROLLER BENCHES)

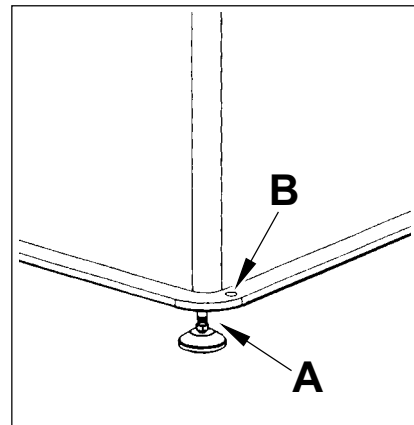


Fig. 3-3 Levelling the machine

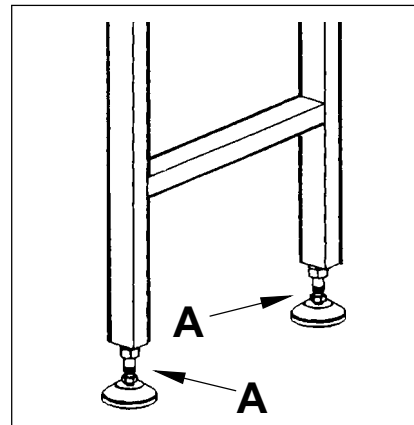


Fig. 3-3 Levelling the tables

3.4 PNEUMATIC CONNECTION (Fig. 3-5)

- The machine is delivered with the pneumatic system completely connected.
- It is necessary to prepare a pipe with outer diameter 8mm coming from the compressed air network to be coupled to the union **B** at the inlet of the filter-lubricator unit fixed onto the machine as per figure 3-4.
- The machine is equipped with a key device **A** to supply and isolate the energy to be used every time the machine is stopped so as to discharge the residual pneumatic energy.
- To put the pneumatic system in operation it is necessary to turn key **A**.
- The operating pneumatic pressure must be 6 ÷ 8 bar.

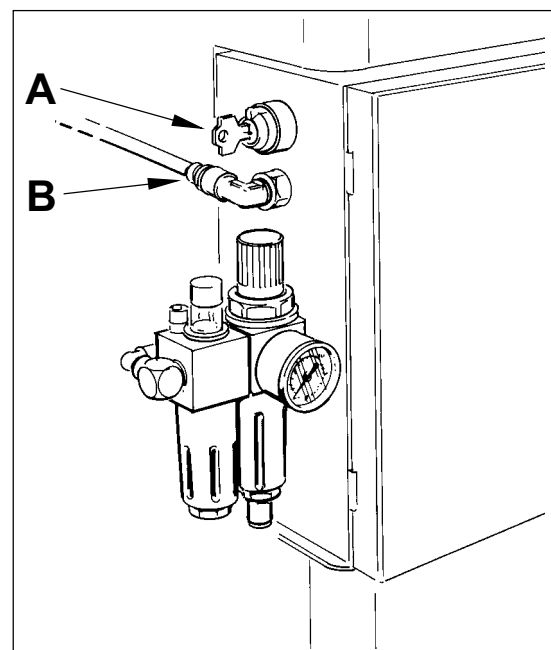


Fig. 3-4 Pneumatic connection

3.5 ELECTRIC CONNECTION



It is advised to assign this operation to specialized personnel.

- First of all, it is necessary to check that the voltage and frequency of the machine's electrical system are in conformity with those of the mains the machine has to be connected to.
- The leads of the connecting cable need to have a cross-section of 2.5 mm² for 380V/50Hz or 4 mm² for 220V/50Hz.
- Remove the junction box cover **C** Fig. 3-5
- Insert the cable into the box thru the hole with cable gland and connect the wires with the terminal board.



The machine should be connected to a system equipped with differential switch (automatic circuit breaker) and suitable earthing.

3.5.1 Checking connection

- Proceed to check the direction of rotation of the motor, observing the arrow on the base under the blade access door and observing the blade through the window **D** Fig. 3-6.
- In the case of the direction of rotation being the contrary, reverse the position of two power leads.
- Put cover back and tighten it by means of the four screws.

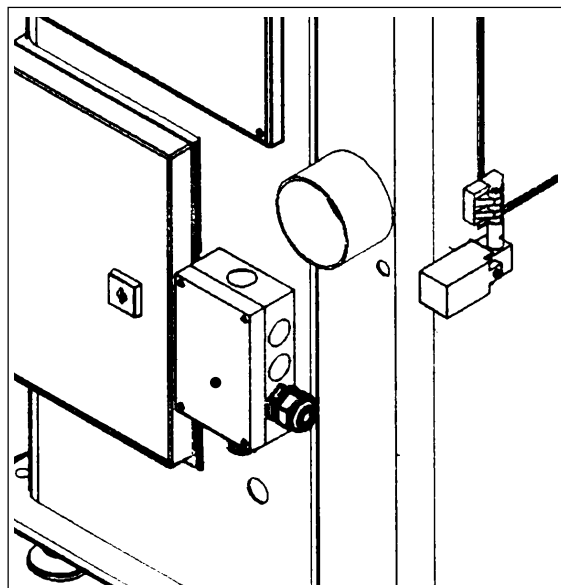


Fig. 3-5 Connector block

3.6 EXTRACTION CONNECTION (Fig. 3-6)

It is compulsory to connect the rear extraction mouths **E** and **F** of diameter 80 mm to an effective suction device. Considering a minimum speed of 20 m/sec the volume of air required is 400 m³/hour. Extraction must also be used while cutting single pieces.



In the case of damp shavings the extraction speed must be at least 28 m/sec.

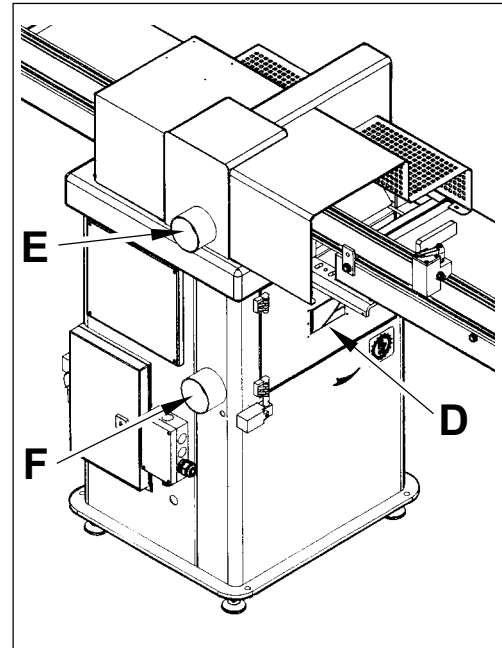


Fig. 3-6 Extraction

3.7 PRELIMINARY CHECKS

Before starting to cut it is essential to make a few preliminary checks:

- that the line voltage corresponds to the motor voltage (see motor rating plate) on the back of the machine;
- the power cable is sufficiently sized;
- there is an electrical protection before the connection with adequate fuses;
- that the blade is well tightened, turns without oscillating and that the direction of rotation corresponds to the one indicated by the arrow on the base;
- that the door with safety microswitches is perfectly shut (otherwise it is not possible to start up the machine);
- check there is oil in the lubricator of the compressed air system;
- that the roller benches are properly assembled;
- that the pneumatic energy is supplied (otherwise it is not possible to start up the machine).

4 ADJUSTMENTS

4.1 FITTING AND REMOVING THE BLADE



The operation is to be done with protective gloves.

Before fitting the blade () thoroughly clean the tightening flanges

- Insert the rear driving flange onto the shaft and push it down.
- Insert the blade, bearing in mind the direction of rotation marked by the arrow below.
- Insert the front flange **O** and keep hold of it by meand of the special spanner fig. 4-1.
- Screw and tighten firmly the two lock screws **P**.
- To remove the blade proceed in reverse order.

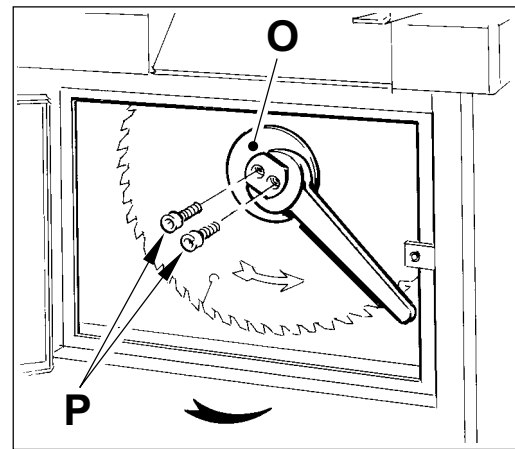


Fig. 4-1 Fitting blades



We recommend to use only the outfitted spanners. Do not use extensions or mallets to tighten further.

4.2 FITTING AND REMOVING THE ROLLER BENCHES AND RELATIVE FENCES

After positioning and levelling the machine correctly as described in point 3.3 POSITIONING AND LEVELLING THE MACHINE, fit the roller benches and the relative fences.

4.2.1 Fitting the right-hand fence (fig. 4.2.1)

- Almost completely unscrew the screws fixing the slide plates (1) of the two angle-brackets (2) mounted on the work table.
- From the left-hand side of the machine, insert the rear fence guide between the plates of the two angle brackets, sliding it completely to the right until it is beyond the blade cut level.

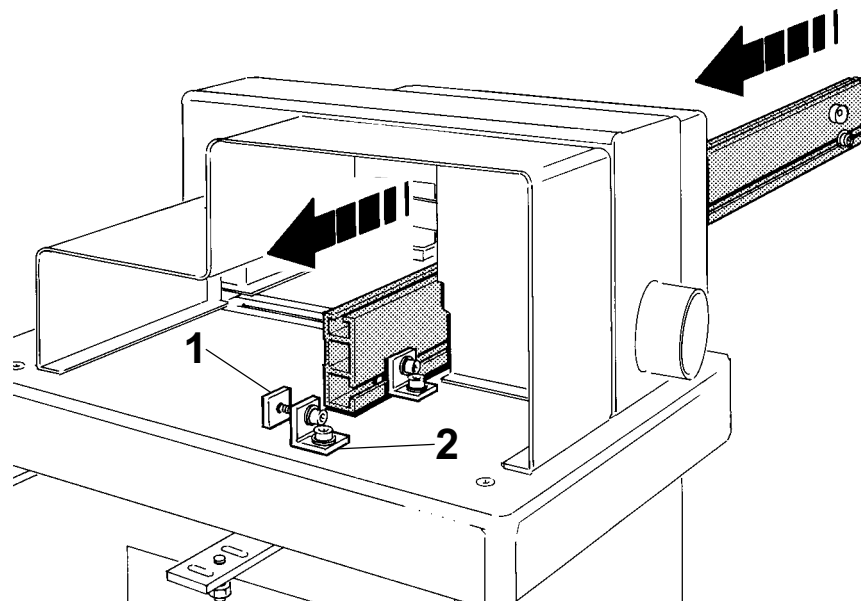


Fig. 4.2.1 Fitting the right-hand fence

- Place the fence against the angle brackets and the work table, sliding it back from right to left until the locator pin (3) is resting against the presser support.
- Tighten the screws of the angle brackets (2), keeping the fence firmly pressed against the work table and the locator pin (3).



The eccentric locator pin (3) has been correctly set before delivery. Do not touch the adjuster screw.

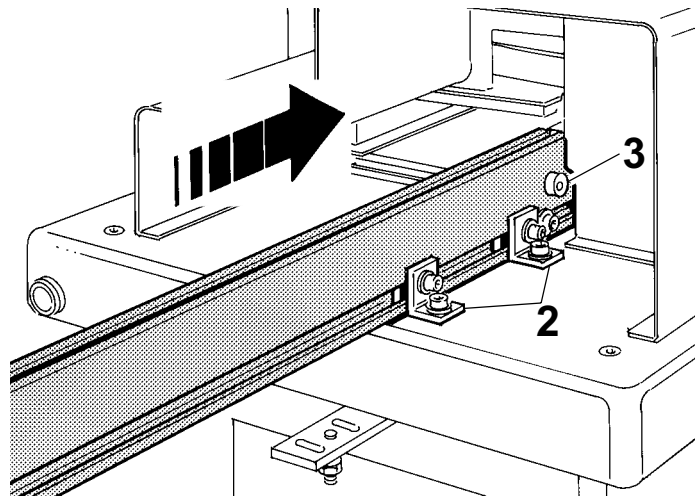


Fig. 4.2.1 Fitting the right-hand fence

4.2.2 Fitting the right-hand roller bench (fig. 4.2.2)

From right to left, insert the two slide plates (4) fitted on the rear of the bench into the rear guide of the fence already fitted on the machine. Move the bench along until it is against the machine work table and above the two fixing plates (5) (already fitted).

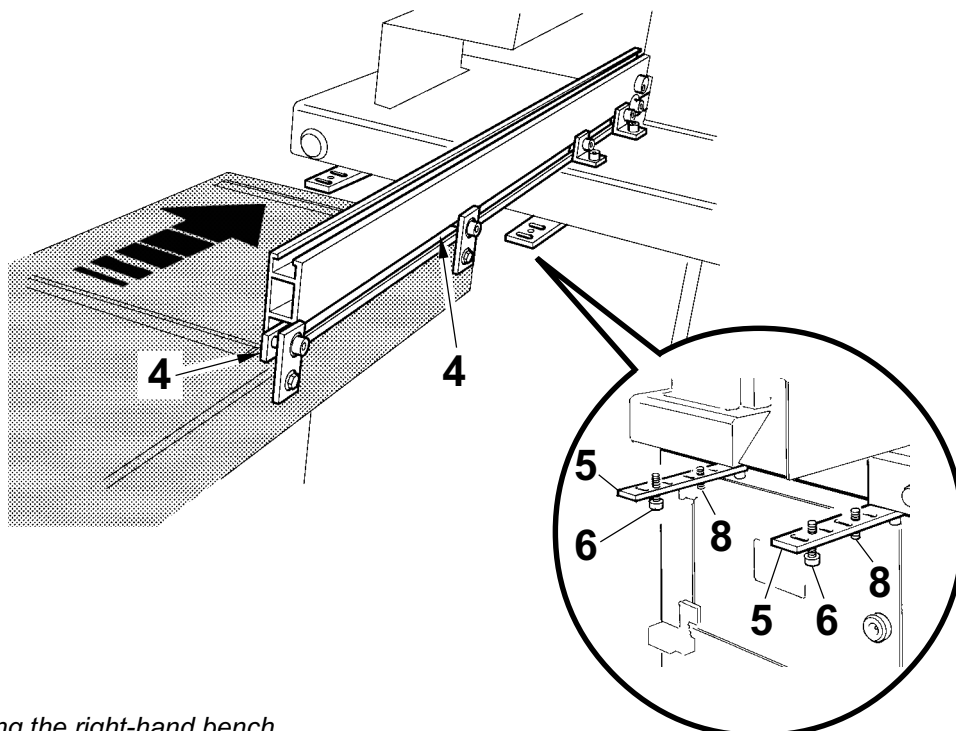


Fig. 4.2.2 Fitting the right-hand bench

- Insert the table lower fixing screws (6) in the plates (5) fitted on the machine work table, without tightening them completely (fig. 4.2.2).
- From the other side of the bench, fit the supporting stand (7), fixing it with two screws on either side.

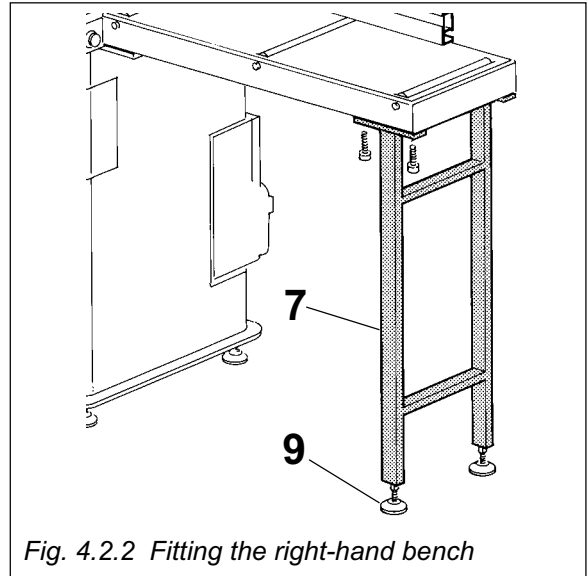


Fig. 4.2.2 Fitting the right-hand bench

- Check that the roller bench is positioned correctly perpendicular to the machine work table.



Use a ruler to level the two tables, making the appropriate adjustments to the register dowels (8) of the plates for fixing to the machine and/or the adjuster screws (9) of the stand (fig. 4.2.2).

- When the checks are complete, tighten all the fixing screws carefully.

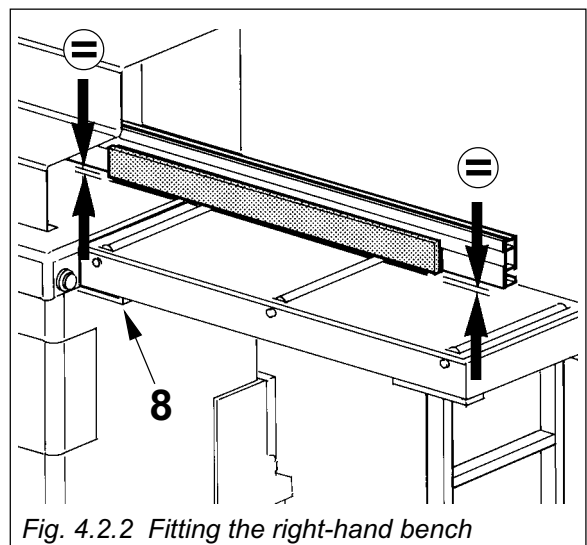


Fig. 4.2.2 Fitting the right-hand bench

4.2.3 Fitting the left-hand roller bench (fig. 4.2.3)

- Connect the bench to the two supports (1) already fitted to the left-hand side of the machine and fix them with the screws provided.



The left-hand bench can be fitted in two different positions depending on the size of the offcuts to be offloaded through the gap (2) between the bench and the work table.

- Fit the supporting stand (3) on the other side of the bench, fixing it with two screws on each side.
- Check that the bench is positioned correctly perpendicular to the machine work table. Use a ruler to level the two surfaces, making the appropriate adjustments to the register screws of the fixing supports and/or the adjuster screws of the stand, using the same procedure as for the right-hand bench.

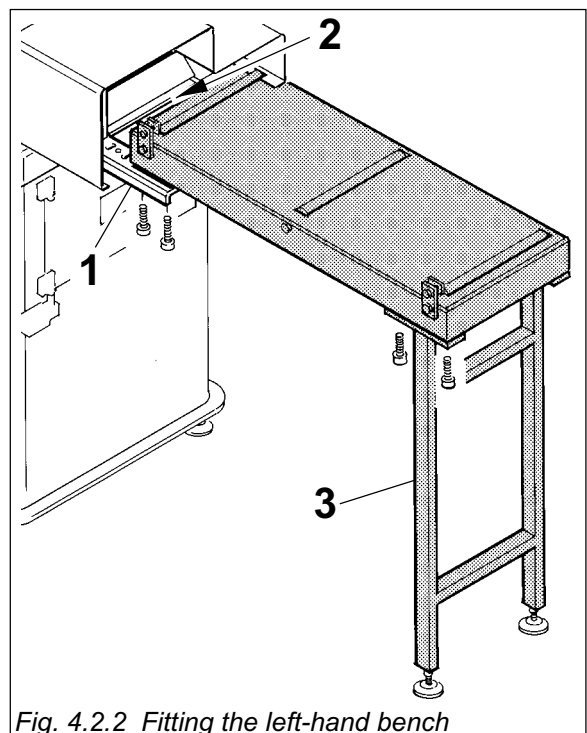


Fig. 4.2.2 Fitting the left-hand bench

4.2.4 Fitting the left-hand fence (fig. 4.2.4)

- Undo the screws of the blocks (1) which fix the fence already fitted on the rear of the left-hand bench.
- Insert the two slide plates (2) in the fence rear guide and slide it along until the locator pin (3) is touching the presser support.
- Keeping the fence firmly positioned on the side and in contact, tighten all the fixing screws of the blocks (1) carefully.

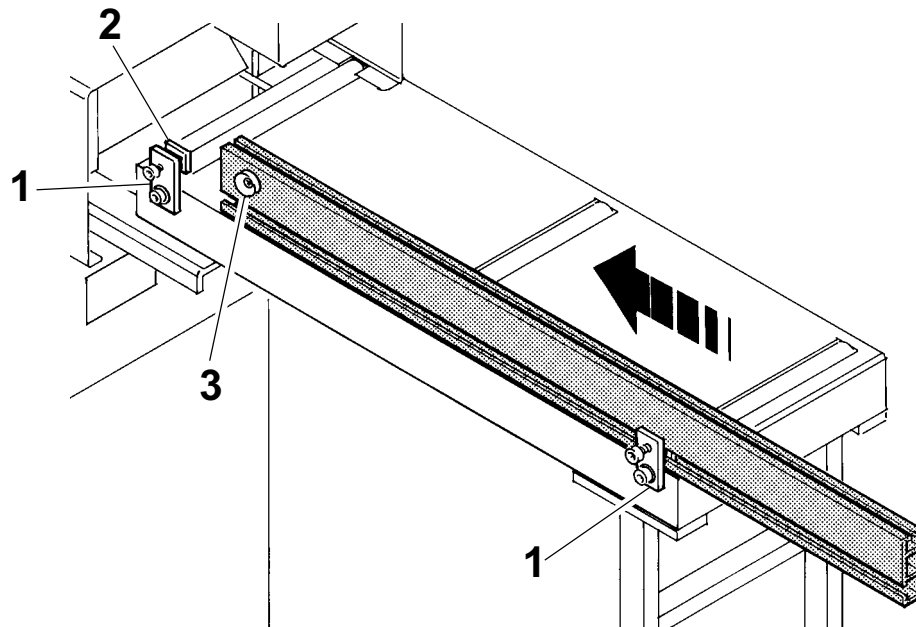


Fig. 4.2.4. Fitting the left-hand fence.

4.2.5 Aligning the right-hand and left-hand fences (fig. 4.2.5)

- Place a rule of sufficient length against the right-hand fence and check the alignment of the left-hand fence.
- If necessary, move the whole of the left-hand bench to adjust; then tighten all the fixing screws.
- Make a trial cut to check that the length of the cut piece is the same as the measurement read on the millimetre scale on the fence.

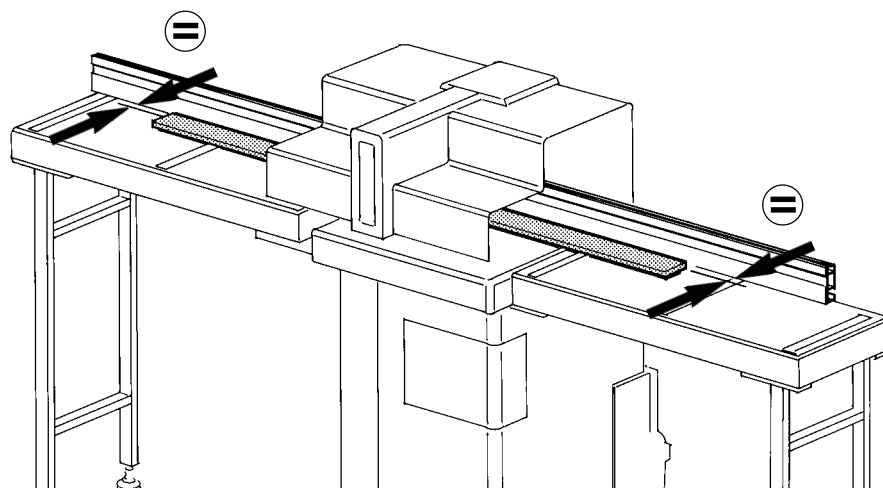
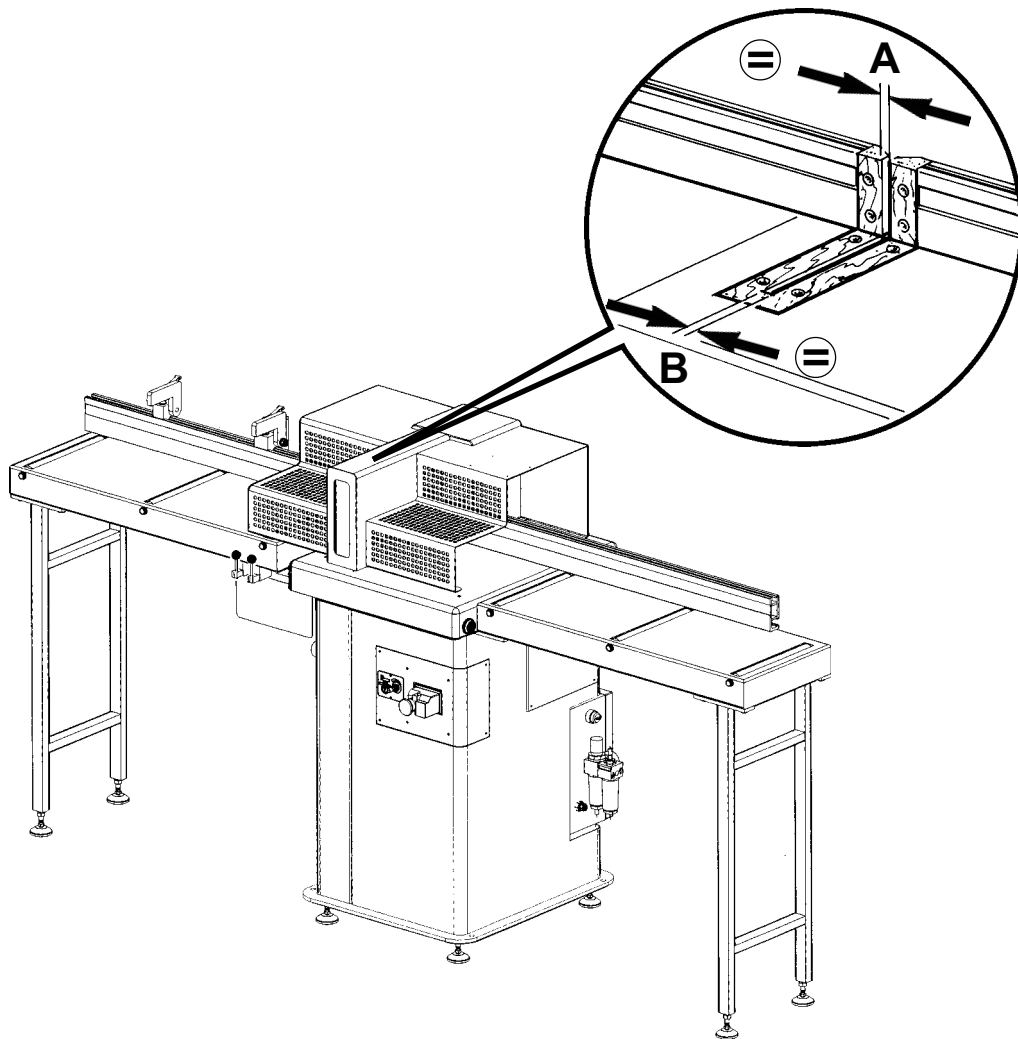


Fig. 4.2.5 Aligning the right-hand

- If necessary adjust the position of the fence, undo the fixing screws of the rear blocks and move the fence itself as appropriate.
- Make a visual check that the gap (A) between the splinter guards of the two fences corresponds to the width (B) of the blade cut on the work table.



Cut a piece using the locator stop (C). If the reading on the millimetre scale of the fence is not the same as the length measured on the piece, adjust the fence rear eccentric stop pins to correct the error.



4.3 FITTING THE ROLLER BENCH EXTENSIONS (OPTIONALS)

To fit the side roller bench extensions, proceed as follows:

- Fix foot **G** and cause the connecting plate **N** to project by one hole with respect to the standard roller bench fig. 4-3.
- Fit foot **Q** on the other side of the extension, securing it by means of the special screws.
- Fit the extension on the projecting plate of the standard bench foot and fasten it by means of the special screws.
- With a suitably long rule check the alignment of the wood support guides and the levelling of the work table. If necessary, adjust screws on supporting feet **M**.
- Tighten all fastening screws firmly.

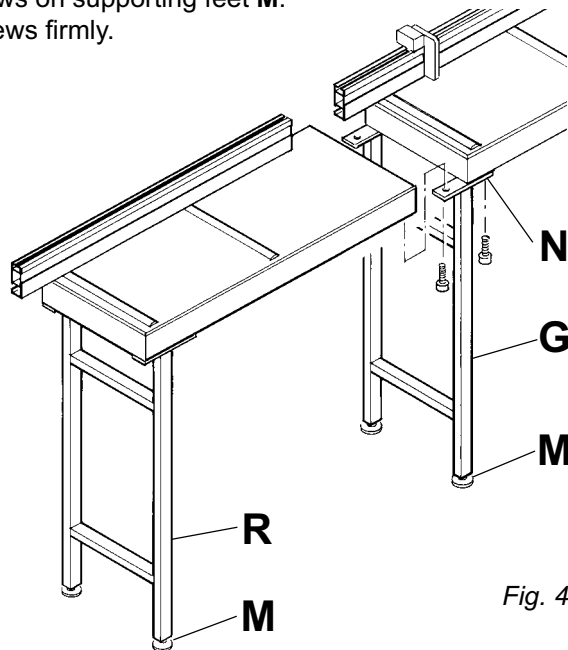


Fig. 4-3 Fitting benches

4.4 ADJUSTING THE GENERAL PNEUMATIC PRESSURE (fig. 4-4)

To adjust the general pressure, use the knob **R** of the lubricator gearbox filter unit.
Min. operating pressure: 6 bar.

4.5 ADJUSTING THE BLADE SPEED FOR CUTTING (Fig. 4-5)

To adjust the upward speed of the blade and downward speed of the presser, use the knurled knob of the regulator **S**. Then lock the knob by means of the knurled ring nut **T**.

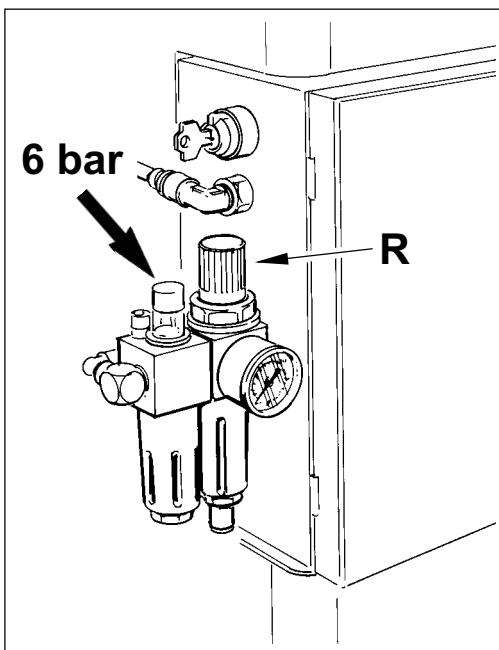


Fig. 4-4 Adjusting pressure

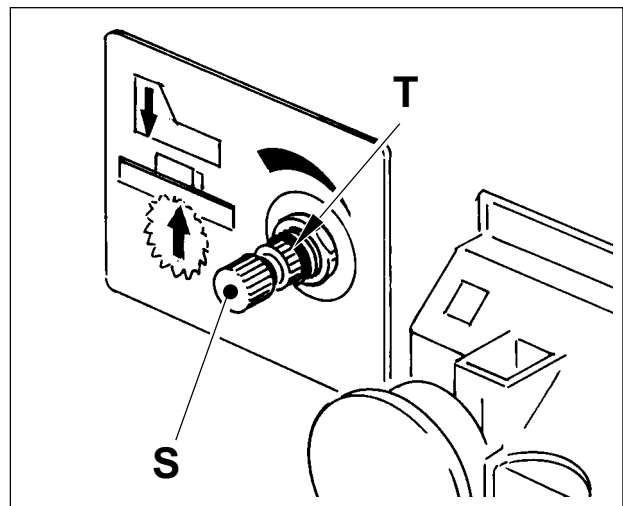


Fig. 4-5 Adjusting speed

5 USING THE MACHINE

5.1 STARTING UP THE MACHINE (Fig. 5-1)

When starting up the machine it is necessary to:

- Release the red mushroom button **V**.
- Press the button **X** to start the motor up.



The mushroom button is designed to stop the machine during the normal working cycle and to actuate emergency stop in case of failure.

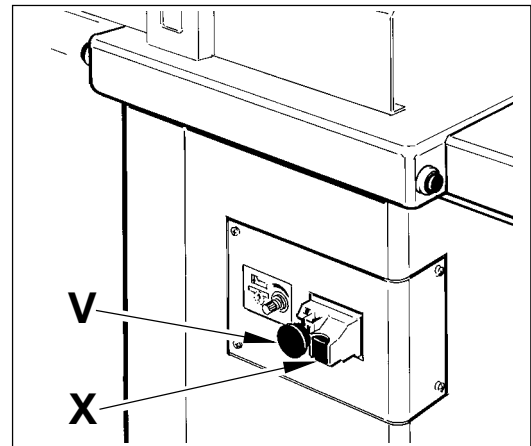


Fig. 5-1 Start buttons

5.2 PREPARING FOR CUTTING CYCLE

5.2.1 Adjusting speed

After starting up the machine adjust the ascent speed of the blade:

- At no load and slow speed, gradually turn knob **S** until you reach the desired speed.
- Insert the wood to be cut from right to left keeping it pushed against the guides.
- Bring it into position so that its head is at least 15 mm over the cutting line.
- Make sure speed is correct, then tighten the ring nut **T** (Fig. 5-2).

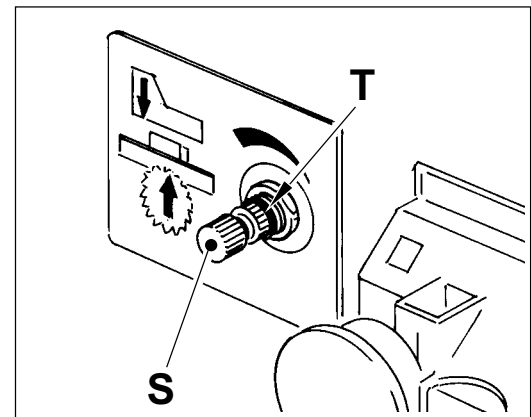


Fig. 5-2 Blade speed

5.2.2 Adjusting stop

- Adjust any stops to the desired cutting length by using the rule on the guides.
- Lock the stop position by means of the snap lever **Y**.



Use lever 11 fig. 2-2 to lift and lower the pneumatic stop.

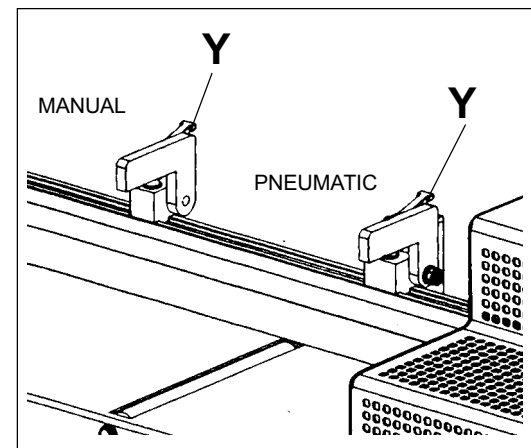


Fig. 5-3 Stops

5.3 MAKING THE CUT

Once all the preparatory operations have been carried out, make the cut by pressing the two buttons Z beside the working table fig. 5-1 with both hands simultaneously.

5.4 STOPPING THE MACHINE

5.4.1 Stopping the cut

Release the side buttons Z to interrupt the blade cutting cycle.



Bear in mind that if just one of the buttons is released, the machine returns to the cycle start position, and will not restart until both are released.

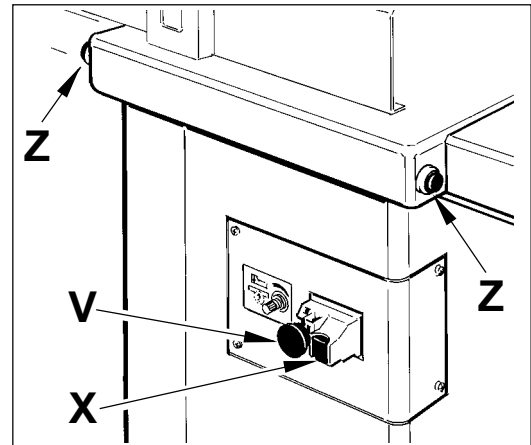


Fig. 5-1 Start buttons

5.4.2 Stopping the machine

To stop the machine after work or in an emergency, press the red button V.

The stop button is equipped with a locking device which allows application of a padlock to prevent accidental start-up of the machine.

To fit the padlock:

- press the rectangular RED button (fig. 5-2) with a finger to extend the tang below
- fit the padlock through the hole in the bottom tang
- to restart the machine, remove the locking device and restart following the procedure described in point 5.1 STARTING THE MACHINE.
- also turn the key-switch A (fig. 3-4) to disconnect and discharge the residual pneumatic pressure.
- remove the key.

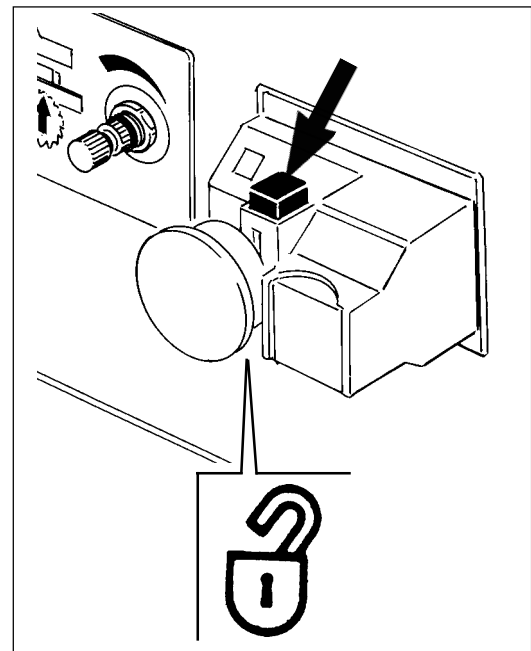


Fig. 5-2 Locking device

6 SAFETY

6.1 GENERAL NOTICES

In the standard version the cut-off saw is equipped with all the mechanical and electrical protections to protect the operator's safety. The main protections that must never be removed while the machine is being used are the following:

- switch that can be padlocked
- two-hand controls
- earthing
- blade access door safety microswitch (if the blade access door is opened during the working cycle, the machine stops immediately)
- presser limit microswitch
- fixed mains protection.

If the machine is not used for long periods, proceed as follows:

- actuate the main switch, lock and padlock it (Fig. 5-1).
- disconnect the pneumatic circuit by turning key switch **A** (Fig. 3-4).
- Remove both keys and keep them in a safe place.

7 MAINTENANCE

Before going ahead with any maintenance or cleaning operation, it is absolutely necessary to lock the red button **V** (Fig. 5-1) and padlock it, besides shutting off the supply of pneumatic energy and locking it with the key.

When the machine is out of use due to breakdown or for servicing, indicate this with a sign saying "MACHINE BEING SERVICED" hung on the control panel in a clearly visible position.

7.1 CHECKS, ADJUSTMENTS AND REPLACEMENTS OF MS 80 MOTOR



For convenient access to the motor, remove the hatch 19 fig. 2-2 by unscrewing the fixing screws.

7.1.1 Replacing the motor brake disc

The brake should be checked when it has been operated 500,000 times, checking the gap and the friction surfaces of the brake disc (40), which must not be less than 1.5-2 mm.



The numbers shown in the text refer to the blow-up drawing of the motor.

7.1.2 Adjusting the motor gap

If the gap exceeds 0.30-0.40 mm, the brake may be released; in this case, the gap must be corrected or the brake disc (40) replaced.

The operations to be carried out in such cases are:

- remove the fan cover (35) by unscrewing the fixing screws (34)
- use compressed air to blow away the dust or other materials deposited on the braking system or on the body of the motor
- insert a feeler gauge between the electromagnet (26) and the counter-magnet (30) and check around the whole circumference that the gap is within the range stated in the table.

To correct the gap, proceed as follows:

- remove the fan cover (35) and straighten the bent tang of the safety washer (32)
- use a suitable tool to tighten the ring-nut (33) as far as necessary to bring the gap (measured with a feeler gauge) within the stated range
- once the gap has been adjusted, fix the ring-nut (33) in place with a tang of the safety washer (32)
- check the gap once more, replace the outer guard (35) and after switching the electrical panel back on, check that the motor works correctly.

7.1.3 Replacing the motor brake disc.

This is the sequence of operations to be carried out:

- remove the fan cover (35) by undoing the screws (34), raise the tang of the safety washer (32) and completely unscrew the ring-nut (33).
- for motors with shaft diameter up to 112, the fan (31) has to be axially extracted from the gear wheel seat. For size IEC 132 remove the fan (41) and extract the brake disc (40), to replace it with a new one.
- fit the new fan (31) and then the washer (32) and the ring-nut (33), taking care to screw down the ring-nut until the correct gap is restored as explained in the previous point.



When changing the fan, the motor should be placed on a work bench, with the shaft pointing down, to prevent the springs from coming out.

7.2 CLEANING

Keep the work table as clean as possible and periodically suck air from the motor and saw unit for dust depositing. Periodically check the extraction mouths are not clogged.

7.3 GENERAL LUBRICATION (Fig. 7-3)

The machine needs no special lubrication or greasing as it is fitted with watertight bearings. Periodically check the oil level in the lubricator of the pneumatic system (IP HIDRUSOIL 22 or the equivalent). Adjust the lubricator with one drop of oil falling every 5 work cycles.

7.4 SPECIAL PRECAUTIONS

In the event of the machine being inactive for a period of time longer than a few days, oil the non-painted metal parts to prevent oxidation. When restarting work it will be necessary to remove the film of oil from the areas where the material rests.

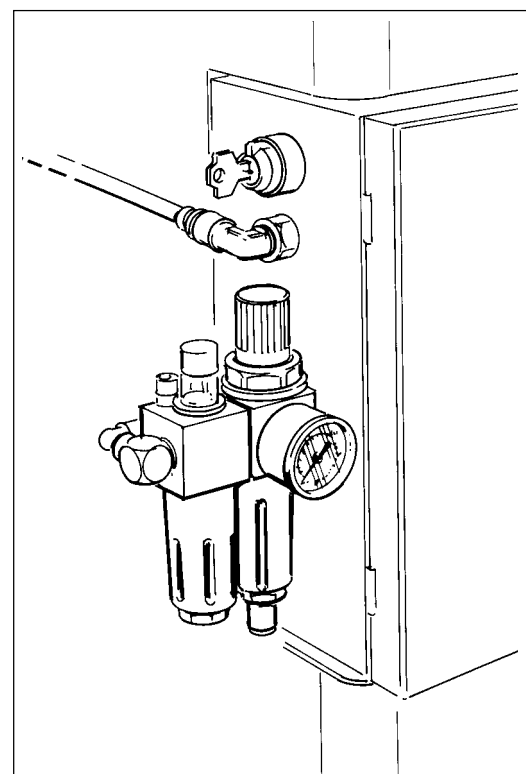


Fig. 7-3 General lubrication

7.5 RESTORING THE SPLINTER GUARD GAP

If the distance between the wooden splinter guards of the two fences increases excessively during use of the machine, the correct gap can be restored as follows:

- undo the fence rear block fixing screws.
- pull the two fences out by a few cm to allow the rear fixing screws of the splinter guard holder blocks to be undone.
- move the blocks a few mm towards the blade and tighten the fixing screws.
- reposition the fences against their contact surfaces and fix them as explained in the assembly instructions (4.2.1-4.2.4).
- during the first cutting operation, the splinter guards will also be trimmed as the cut is made.



The splinter guard wood is thick enough to allow max. 2/3 adjustments to be made, and no more; after this, they must be replaced with new wood.

7.6 REPLACING THE BLADE HOLE GUARD (Fig. 7.6)

If the cut in the wooden blade hole guard widens too much with time, replace it as follows:



Before this operation, the machine must be disconnected from the electricity supply and compressed air system.

- remove the guard casing (1)
- undo the rear fixing screws of both the fences and move them away from the cutting zone.
- unscrew the four fixing screws (2) of the hole guard, lift it and extract it forwards.
- replace it with a new hole guard (which does not have the cut to allow the blade to pass).
- insert it in its seat and fix it with the four screws.
- replace the fences (replacing the wooden splinter guards if necessary) following the instructions in points 4.2.1-4.2.4.
- replace the casing and restore the electrical and compressed air connections.

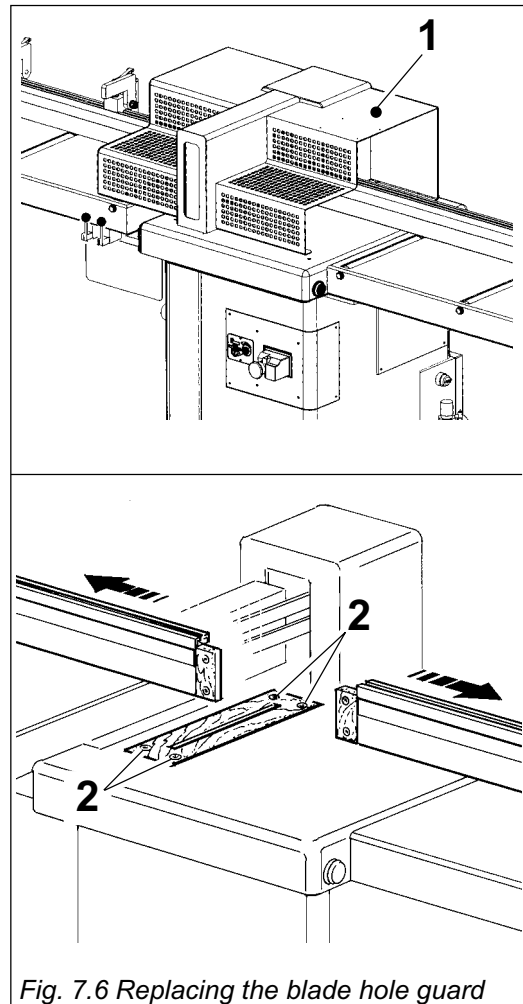


Fig. 7.6 Replacing the blade hole guard

- turn the speed regulator (3) fully to the right (MIN) to prevent the blade from rising.
- start the machine and carry out the operations listed for making a cut, while at the same time turning the speed regulator (3) very slowly to the left (MAX) so that as the blade rises it cuts the hole guard. Allow the blade to turn until it has risen completely.



The assistance of a second operator is recommended when carrying out this operation.

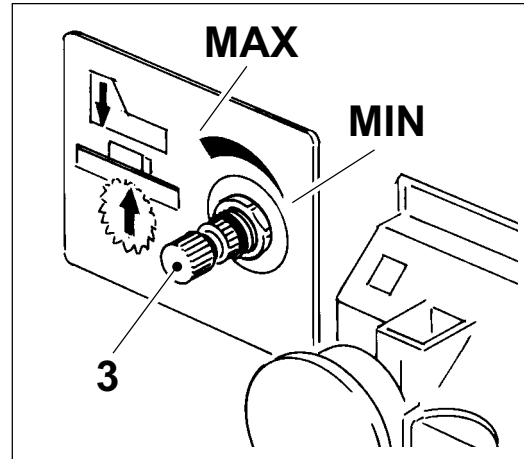


Fig. 7.6 Speed adjustment

8 TROUBLE-SHOOTING GUIDE

Tab. 8-1 Frequency of maintenance works

JOB	EVERY TIME POSSIBLE	EVERY DAY	EVERY WEEK	EVERY MONTH
The pneumatic lubricator oil level should be 2 to 3 cm from the full level			X	
Make sure the extraction pipes are not clogged		X		

DEFECT

The machine will not start:

REMEDY

- Check the blade door closure
- Check the value of the pneumatic supply min 6 bar.
- Check the emergency button is released
- Check the position of the pneumatic key selector

DEFECT

The machine vibrates considerably:

REMEDY

- Check the blade is fitted correctly
- Check no teeth are missing from the blade
- Check the motor bearings

DEFECT

The machine is very noisy:

REMEDY

- Check the quality of the blade

9 SPARE PARTS

In order to ensure speedy despatch of necessary spare parts, it is necessary to meticulously keep to the following rules:

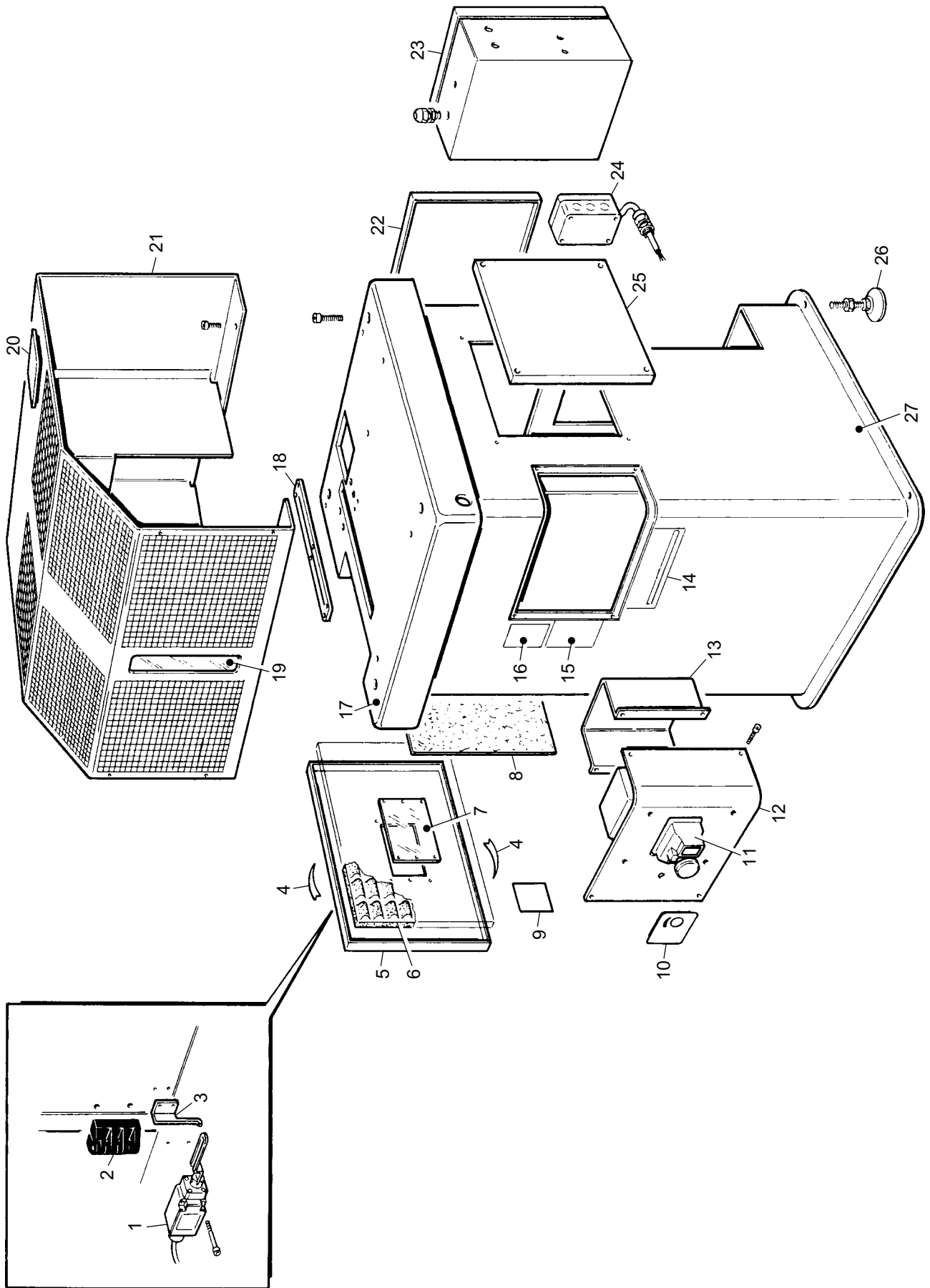
- 1 - indicate the machine serial number
- 2 - indicate the table, code and reference numbers of the parts required
- 3 - indicate the required quantity
- 4 - indicate the method of delivery
- 5 - indicate your exact address.

10 ELECTRIC AND PNEUMATIC DIAGRAMS



The electric and pneumatic system diagrams are enclosed with the machine.

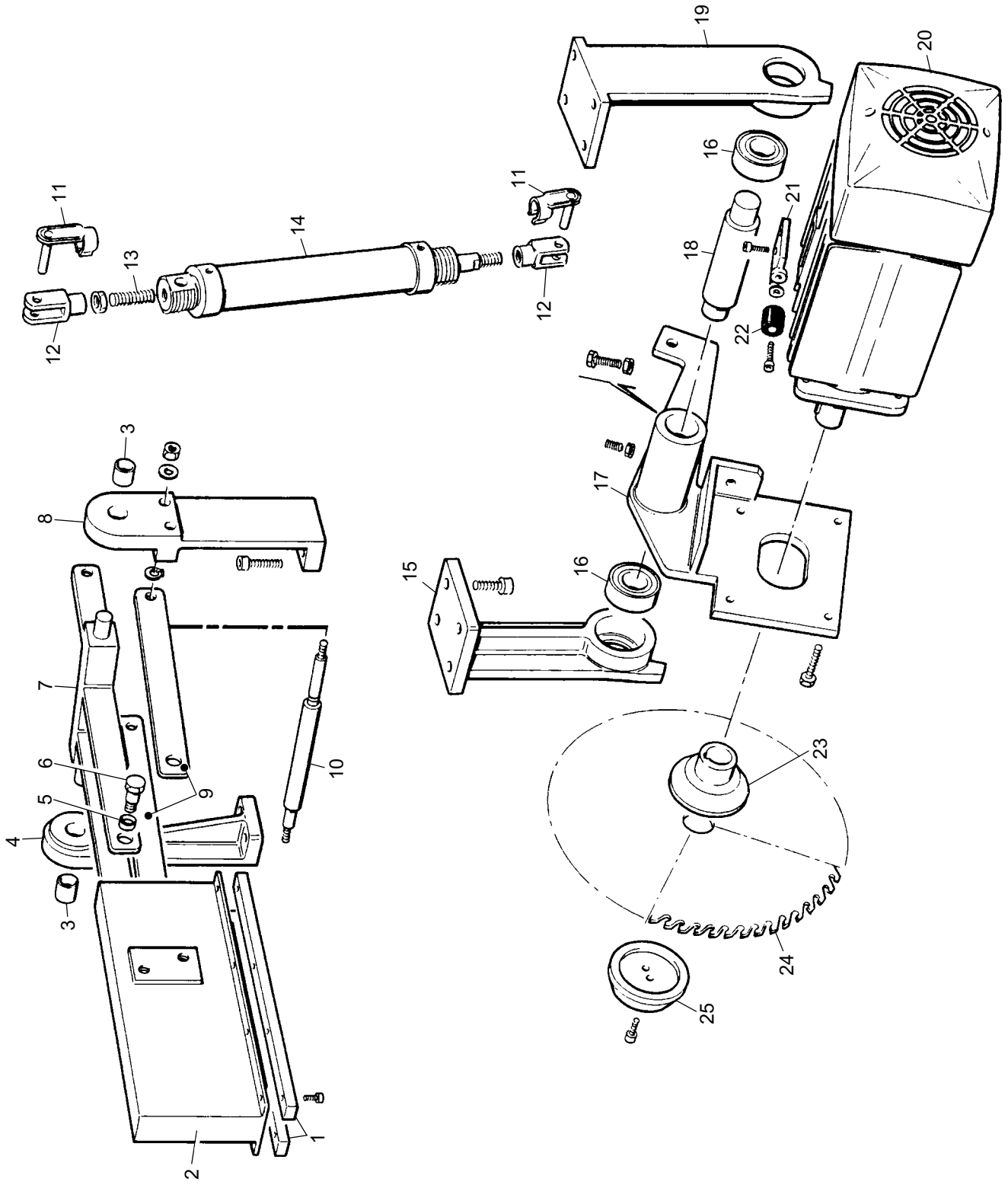
TAB. 1



TAB. 1

RIF.	DESCRIPTION	CODE	Q.TY
1	Microswitch		1
2	Hinge		2
3	Cam		1
4	Indicator		1
5	Casing		1
6	Sponge		1
7	Perspex		1
8	Sponge		1
9	Plate		1
10	Plate		1
11	Control Cabinet		1
12	Cover		1
13	Casing		1
14	Label		1
15	Label		1
16	Plate		1
17	Table		1
18	Hole cover		1
19	Perspex		1
20	Plate		1
21	Guard		1
22	Casing		1
23	Box		1
24	Box		1
25	Casing		1
26	Shoe		1
27	Base		1

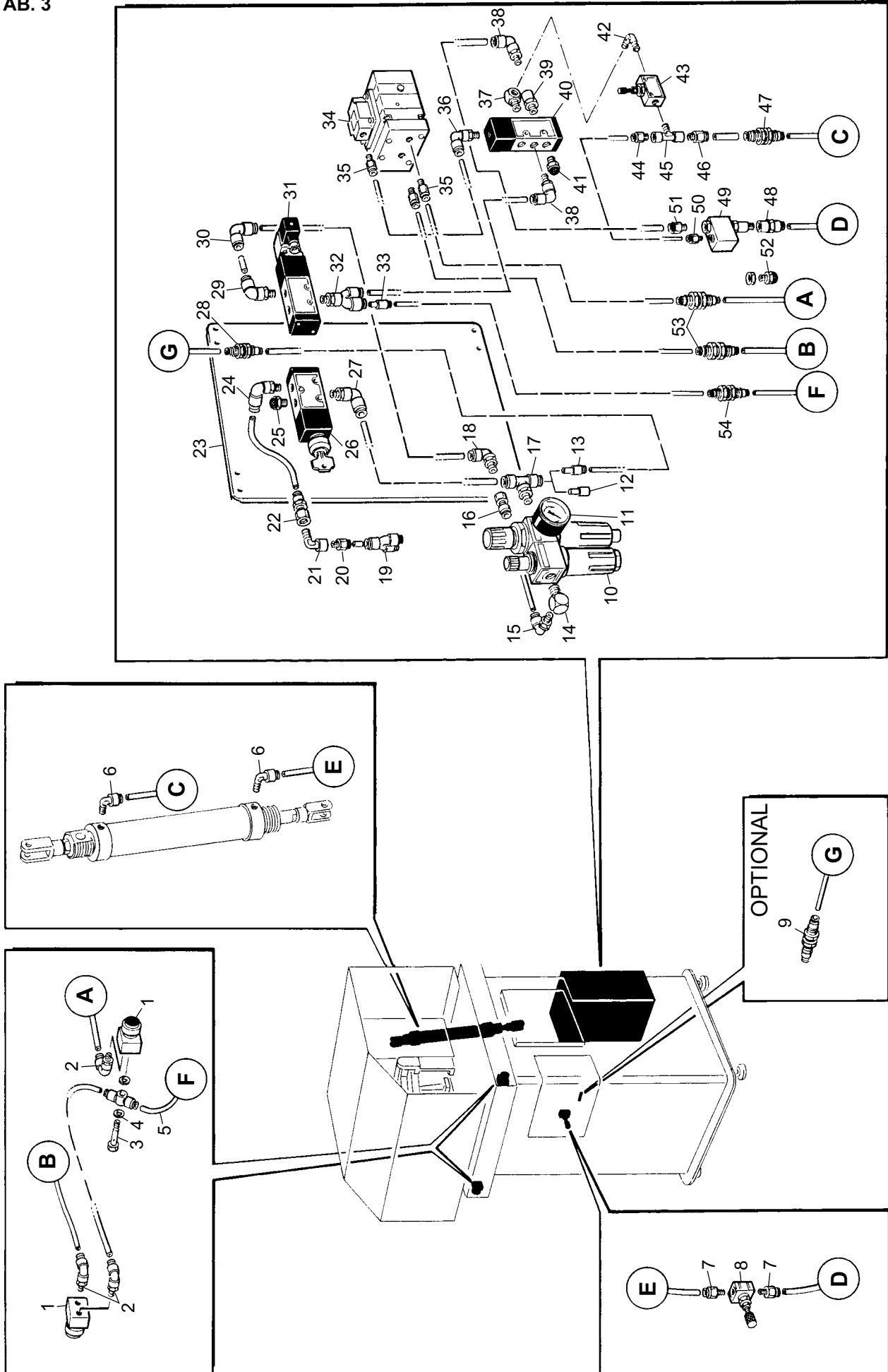
TAB. 2



TAB. 2

RIF.	DESCRIPTION	CODE	Q.Y
1	Gib		2
2	Guard		1
3	Bushing		2
4	Mounting		1
5	Bushing		4
6	Pin		4
7	Fork		1
8	Mounting		1
9	Fork		2
10	Pin		1
11	Pin		2
12	Fork		2
13	Rod		1
14	Cylinder		1
15	Mounting		1
16	Bearing		2
17	Arm		1
18	Pin		1
19	Mounting		1
20	Motor		1
21	Plate		1
22	Tampon		1
23	Flange		1
24	Blade		1
25	Flange		1

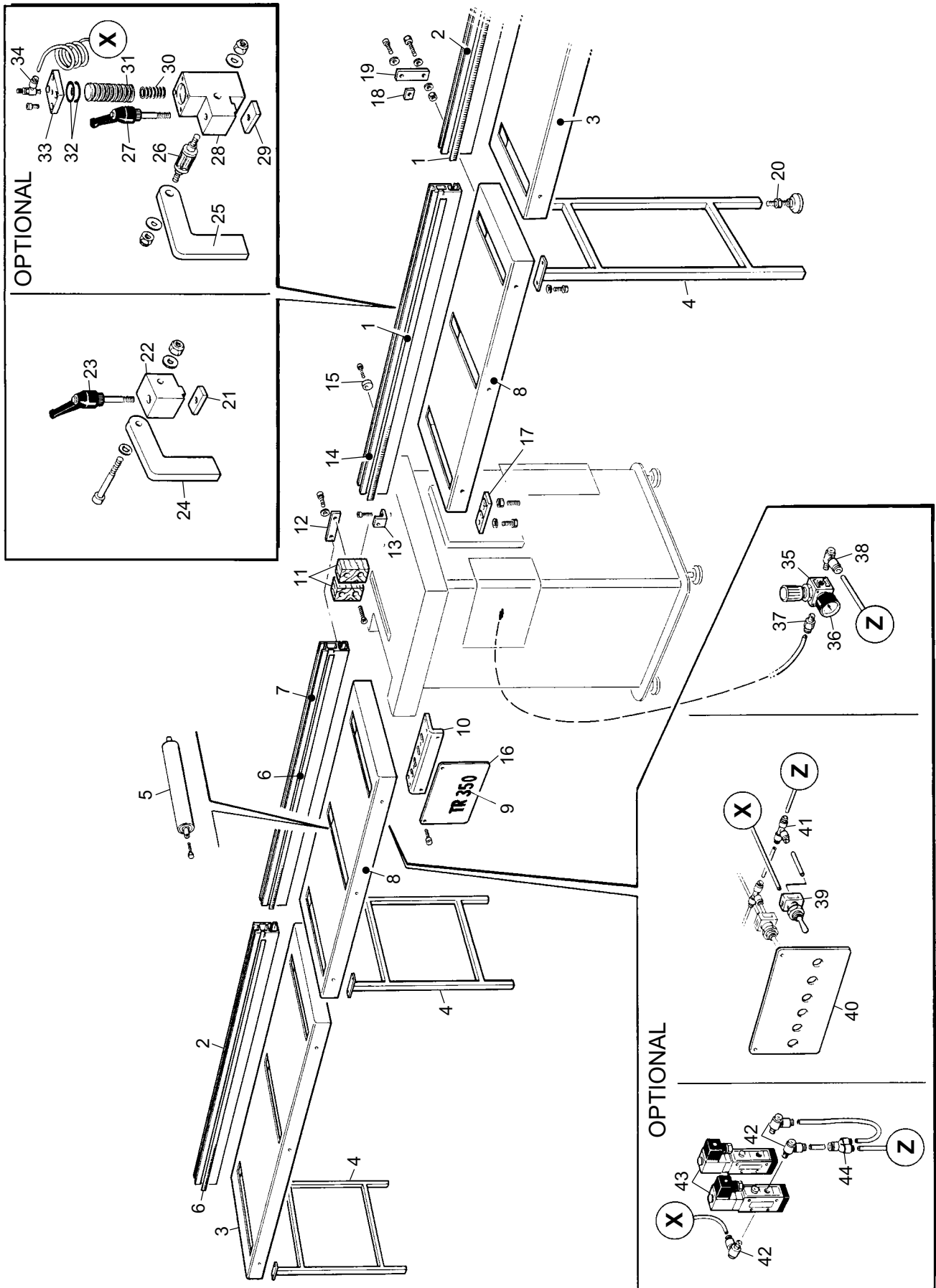
TAB. 3



TAB. 3

RIF.	DESCRIPTION	CODE	Q.Y
1	Push-button		2
2	Fitting		3
3	Screw		1
4	Washer		2
5	Fitting		1
6	Fitting		2
7	Fitting		2
8	Governor		1
9	Fairlead		1
10	Filter		1
11	Pressure gauge		1
12	Plug		1
13	Fitting		1
14	Fitting		1
15	Fitting		1
16	Fairlead		1
17	Fitting		1
18	Fitting		1
19	Fitting		1
20	Fitting		1
21	Fitting		1
22	Fitting		1
23	Panel		1
24	Fitting		1
25	Silencer		1
26	Valve		1
27	Fitting		1
28	Fairlead		1
29	Fitting		1
30	Fitting		1
31	Solenoid valve		1
32	Fitting		1
33	Fitting		1
34	Valve		1
35	Fitting		3
36	Fitting		1
37	Fitting		1
38	Fitting		2
39	Extension		1
40	Valve		1
41	Silencer		2
42	Fitting		1
43	Governor		1
44	Fitting		1
45	Fitting		1
46	Fitting		1
47	Fairlead		1
48	Fitting		1
49	Valve		1
50	Fitting		1
51	Fitting		1
52	Silencer		1
53	Fairlead		2
54	Fairlead		1

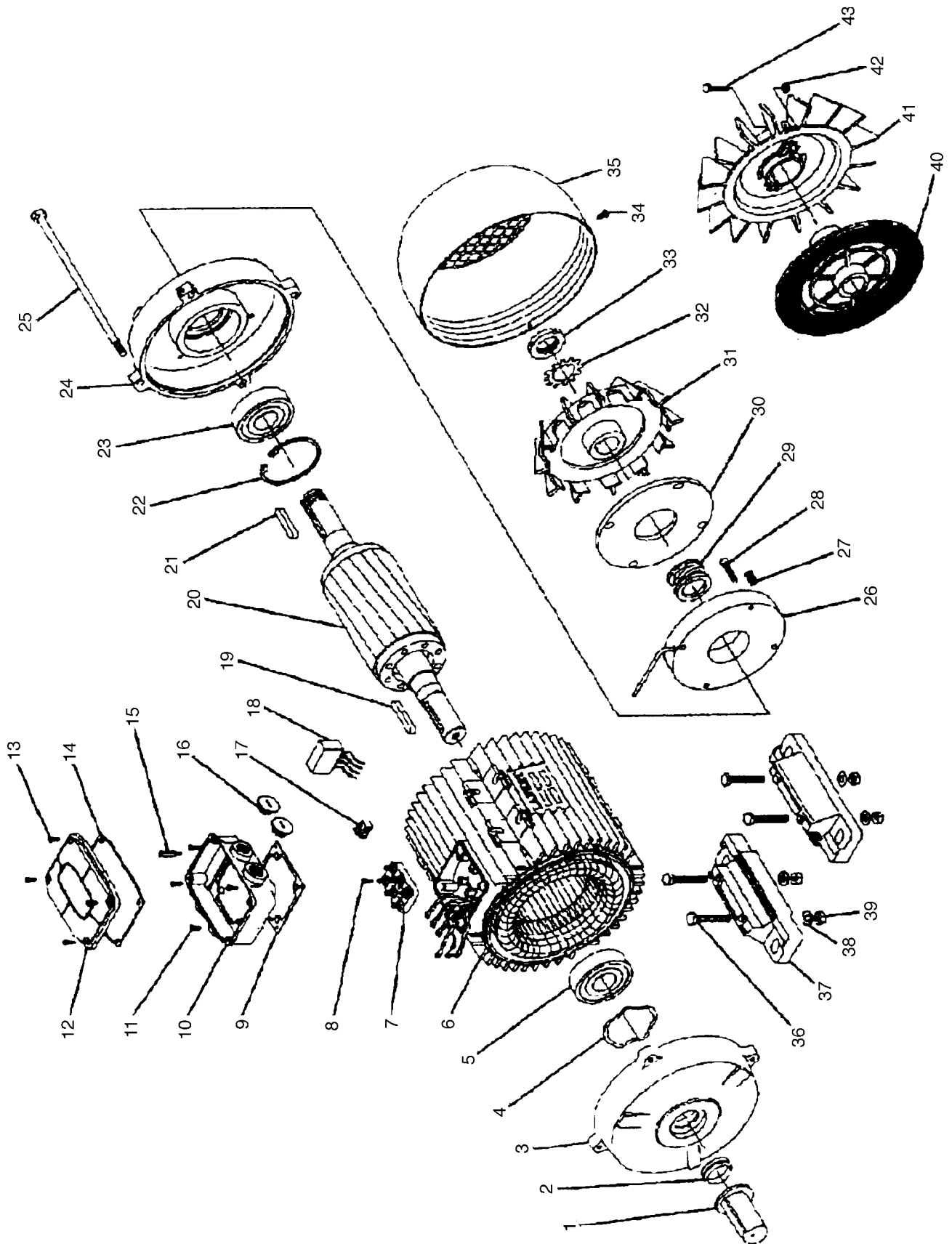
TAB. 4



TAB. 4

RIF.	DESCRIPTION	CODE	Q.Y
1	Rule Rh.		2
2	Guide		2
3	Bench		2
4	Foot		4
5	Roller		12
6	Rule Lh.		2
7	Guide		1
8	Bench		2
9	Plate		1
10	Plate		2
11	Splinter Block		2
12	Bracket		2
13	Mounting		2
14	Guide		1
15	Lock		1
16	Plate		1
17	Plate		2
18	Plate		12
19	Bracket		12
20	Shoe		8
21	Plate		1
22	Mounting		1
23	Lever		1
24	Reference		1
25	Reference		1
26	Pinion		1
27	Lever		1
28	Mounting		1
29	Plate		1
30	Spring		1
31	Screw		2
32	Ring		1
33	Cover		1
34	Governor		1
35	Governor		1
36	Pressure gauge		1
37	Fitting		1
38	Fitting		1
39	Selector switch		1
40	Plate		1
41	Fitting		1
42	Fitting		3
43	Fitting		2
44	Fitting		1

TAB. 5



TAB. 5

IT

1 copriasse
 2 anello V-RING lato motore/accoppiamento
 3 coperchio anteriore
 4 anello elastico
 5 cuscinetto anteriore
 6 cassa
 7 morsettiera motore
 8 viti fissaggio morsettiera
 9 guarnizione base coprimorsettiera
 10 base coprimorsettiera
 11 vite fissaggio coprimorsettiera
 12 coperchio coprimorsettiera
 13 vite fissaggio coperchio coprimorsettiera
 14 guarnizione coperchio coprimorsettiera
 15 distanziale per vite terra
 16 tappi coprimorsettiera o passacavo
 17 morsettiera del freno
 18 alimentatore
 19 linguetta
 20 rotore con asse
 21 linguetta lato freno
 22 anello seeger
 per bloccaggio cuscinetto posteriore
 23 cuscinetto posteriore
 24 coperchio posteriore
 25 tirante
 26 elettromagnete
 27 molle freno
 28 viti fissaggio elettromagnete
 29 molla reggispinta
 30 contromagnete
 31 ventola con disco freno
 32 rosetta di sicurezza
 33 ghiera
 34 viti fissaggio copriventola
 35 copriventola
 36 viti fissaggio del freno
 37 piedino
 38 rondella fissaggio piedino
 39 dado fissaggio piedino
 40 disco ferodo
 41 ventola
 42 dadi fissaggio ventola
 43 vite fissaggio ventola

UK

shaft protection
 drive-end dust seal
 drive-end endshield
 pre-load washer
 drive-end bearing
 stator frame
 terminal board
 terminal board fixing screw
 terminal box gasket
 terminal box
 terminal box fixing screw
 terminal box lid
 terminal box lid fixing screw
 terminal box lid gasket
 earth terminal
 blank gland plugs
 brake terminal board
 rectifier
 hub key
 rotor assembly
 btaks end hub key
 seeger fixing ring
 for non-drive end bearing
 non-drive end bearing
 non-drive end endsheld
 tie-rod
 brake-coll
 brake springs
 brake-coll fixing bolt
 thrust spring
 counter brake-coil
 fan with brake disc
 safety washer
 ring nut
 fan oowl fixing screw
 fan cowl
 feet fixing bolt
 feet
 feet fixing washer
 feet fixing nut
 disc
 fan
 fan fixing nut
 fan fixing bolt

F

protectionbout d'arbre
 joint atanchélté avant
 flasque avant
 rondelle de pré-charge
 roulement avant
 stator
 bomier
 vis de fixation bomier
 joint de boîte à bomes
 boîte à bomes
 vis de fixation boîte à bomes
 couvercle b.a.b.
 vis de couvercle b.a.b.
 joint de couvercle b.a.b.
 bome de masse
 oblurateurs
 bornier du frein
 redresseur
 clavette
 rotor complet
 clavette cote frein
 anneau seeger
 pour blocage roulement arriere
 roulement arriere
 flasque arriere
 tirant
 bobine
 ressorts frein
 vis de fixation bobine
 ressort de butée
 contre bobine
 ventilateur avec disque de freinage
 rondelle de sécurité
 bague
 vis capot ventilateur
 capot ventilateur
 vis de fixation des pattes
 pattes
 rondelle de fixation des pattes
 ecrou de fixation des pattes
 disque ferodo
 ventilateur
 ecrous de fixation ventilateur
 boulon de fixation ventilateur



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