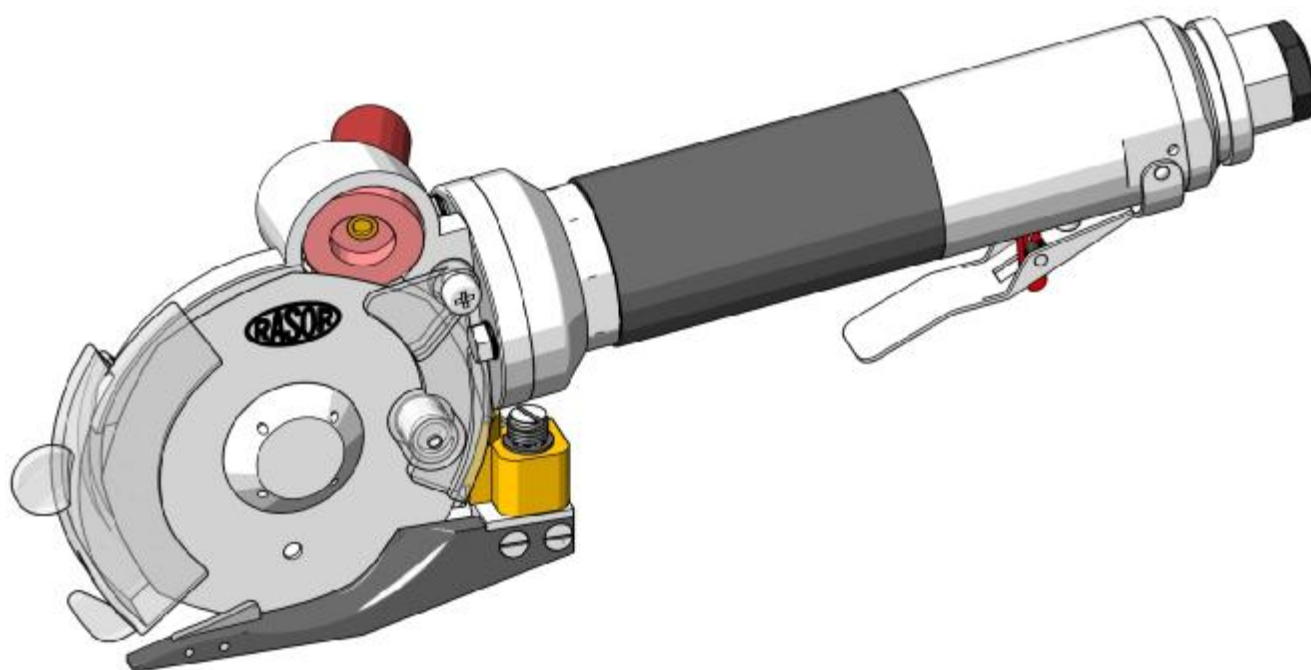


USE MANUAL

English



PNEUMATIC SCISSORS
MOD. FP861MT



dal 1946

ED.1-05/11

Rasor® Elettromeccanica S.r.l. was established in Milan in 1946 by the two promoting partners Spinelli and Ciminaghi. For more than sixty years it has been producing automatic cutting systems, cutting units for textile applications and electric and pneumatic cutters.



Initially considered as a point of reference for cutting systems in the textile applications, the Rasor® products are nowadays widely used in other fields: chemical, automotive, nautical and sport sectors and in furniture manufacturing.

Rasor® can rely on the professional continuity of three generations, thanks to the precious support of the promoting partner, to his passion, dedication and great experience of seventy years.

The main characteristic of Rasor® is that each working phase, starting from the manufacturing of the product up to its packing and delivery is carried out in Rasor® premises by qualified operators who have professionally grown up following the spirit of the company and of its founders. This ensures the high quality which Rasor® has always considered as essential since the beginning of its activity.

Following the innovative spirit mentioned above, our company is constantly focused on the improvement of the product quality, on the study and development of new materials and technologies.

ACKNOWLEDGMENT

Dear Customer,

thank you for choosing a Rasor® Elettromeccanica S.r.l. product.

Rasor® has been a reference point in the field of cutting systems in the textile, clothing, furniture, tailoring, sport, chemical, automotive, nautical and insulating material sectors for years. Its production has been always synonymous with reliability attested by many of satisfied customers.

Rasor® quality system supervises all the company activities in order to provide the Customer with a service that meets its needs and expectations in terms of product quality, delivery reliability and stock of finished products.

All the parts of the devices have been planned and produced to guarantee an optimum performance. In order to keep the high quality level and the long reliability of the Rasor® products, it is recommended to use only original spare parts and to contact the head office for any maintenance work.

1. GENERAL SAFETY RULES



This manual is an integral part of pneumatic scissors FP861MT and must be carefully read before using it since it gives important indications with regards to its safe installation, use and maintenance. Keep it with care.



Before using pneumatic scissors FP861MT, read carefully the following general safety rules.

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- **PACKAGING.**
After taking off the packaging make sure that the machine is intact. In case of doubt do not use it and contact an authorized service centre. Do not leave pieces of packaging (plastic bags, foam polystyrene, boxes, etc.) within the reach of children or disabled persons since they are potential sources of danger.
- **AVOID DANGEROUS ENVIRONMENTS.**
- **KEEP CHILDREN AWAY.**
Unauthorized persons, in particular children, must be kept away from the working area.
- **KEEP THE WORKING AREA ALWAYS IN ORDER.**
The workplace must always be kept in order and well lightened.
- **ALWAYS USE PNEUMATIC SCISSORS FP861MT PROPERLY.**
Use the scissors only to carry out the works they have been designed for; do not use them improperly.
- **OBSERVE THE USE OF THE TOOLS.**
Do not cut excessively thick materials and always check blade conditions.
- **AVOID ACCIDENTAL STARTINGS.**
Before connecting pneumatic scissors FP861MT, make sure that everything is installed properly.
- **CLOTHING.**
Do not use large clothes or accessories that might get stuck in the moving parts.
- **GOGGLES AND PROTECTIVE METAL MESH GLOVES.**
Always use goggles, protective metal mesh gloves approved by Rasor® during use and maintenance operations (according to UNI EN 388:2004 standard).
- **SPARE PARTS.**
During maintenance and replacement operations use only original spare parts. Blade maintenance must be only performed by Rasor® technicians.
- **INSTALLATION.**
Any installation that is not in conformity with these specifications could jeopardize your safety and cancels the warranty.

Informative letter

The installer and the maintenance man must know the content of this manual. Although the main features of the machine described in this manual are not subject to change, **Rasor® Elettromeccanica S.r.l.** reserves the right to modify the components, details and accessories it deems necessary to improve the machine or to meet manufacturing or commercial requirements at any time and without being obliged to update this manual immediately.

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4



WARNING



ALL RIGHTS ARE RESERVED ACCORDING TO THE INTERNATIONAL COPYRIGHT CONVENTIONS,

The reproduction of any part of this manual, in any form, is forbidden without the prior written authorization of Rasor® Elettromeccanica S.r.l. The content of this guide can be modified without prior notice. Great care has been taken in collecting and checking the documentation contained in this manual to make it as complete and comprehensible as possible.

Nothing contained in this manual can be considered as a warranty, either expressed or implied - including, not in a restrictive way, the suitability warranty for any special purpose. Nothing contained in this manual can be interpreted as a modification or confirmation of the terms of any purchase contract.

Rasor® Elettromeccanica S.r.l. machines have not been conceived to work in areas at risk of explosions and at high risk of fire.

In case of damage or malfunction, pneumatic scissors FP861MT must not be used until the Customer Care Technical Service has repaired them.

Customer Care Technical Service



For any information, please contact
RASOR®ELETTROMECCANICAS.r.l.
Via V. Caldesi, 6; 20161, MILANO (MI) - ITALY
Phone: +39.02.66221231; Fax: +39.02.66221293
e-mail: info@rasor-cutter.com
web: www.rasor-cutters.com

WARNING

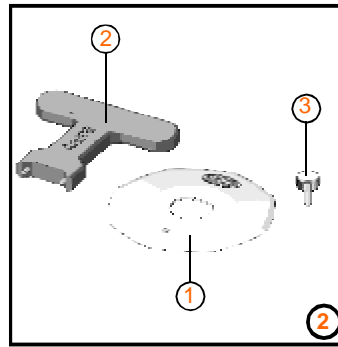
The original configuration of the pneumatic scissors must not be changed at all. On receiving the machine make sure the supply corresponds to what has been ordered. In case of non-compliance immediately inform Rasor®. Also make sure the scissors have not been damaged during transport.



2. TRANSPORT AND PACKING

The pneumatic scissors are delivered in a cardboard box, inside which there are various optionals. The code of the ordered product and its serial number are indicated outside the package (see picture 1). The following accessories are contained in a bag inside the package:

- 1) Octagonal blade (8 sides);
- 2) Butterfly key for blade nut disassembly;
- 3) Drift for blade disassembly.

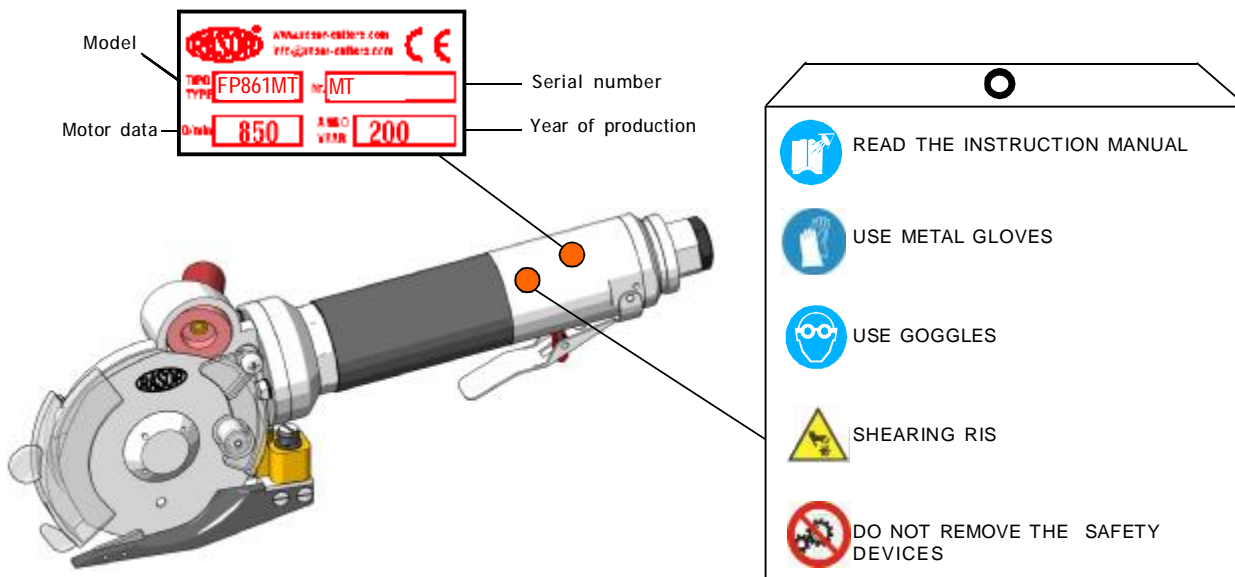


3. PLATE DATA

The manufacturer's identification and 2006/42/EC STANDARD conformity plate (see picture below) is located on the front part of the pneumatic scissors.

The plate must not be removed at all, even if the machine is resold. Always refer to the serial number (written on the plate itself) when contacting the manufacturer.

Several safety warnings are printed on a card which is applied to the scissors feeding cable; such warnings must be strictly followed by everyone dealing with the machine. The company is not to be held responsible for damage to property or accidents to people which might occur if the above-mentioned warnings are not observed. In such a case, the operator is the only person responsible.



4. PRODUCT DESCRIPTION

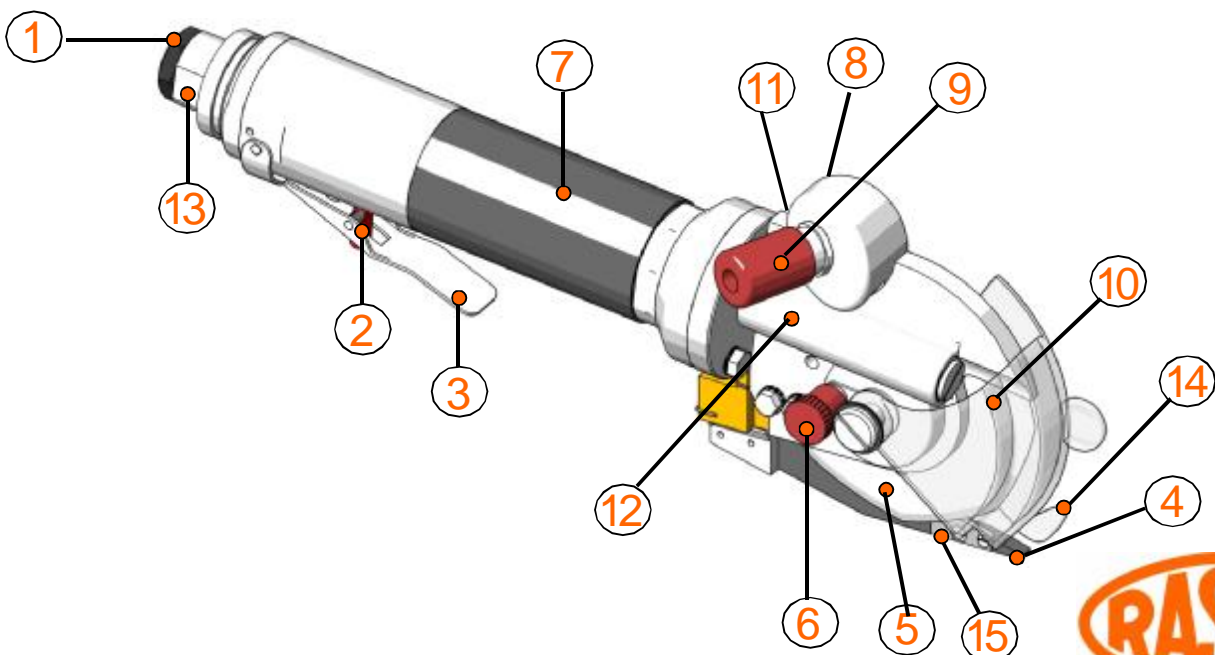
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The fixture described in this manual is a pneumatic scissor model FP861MT which has been designed to cut composite materials such as Kevlar, fiberglass or carbon fibre. It is extremely versatile, light and precise in the cutting operation, suitable also for very difficult cuttings. One special feature of pneumatic scissors FP861MT is their ability to sharpen the blade in each moment without disassembling it by means of a grinding wheel mounted on the scissors head. After carrying out this operation, it is possible to start cutting again. The pneumatic scissors are provided with a threaded connection to the pneumatic circuits. The turbine, perfectly balanced, with a high number of revolutions and totally free of maintenance, reduces the vibrations and the noise to the minimum.

The pneumatic scissors can be used also outdoor and to cut damp or wet materials and therefore particularly recommended in tannery, dyeworks, etc.

The pneumatic scissors FP861MT are extremely light (they weight only 1 Kg) and handy and allow carrying out quick and precise cuts, even with curve profiles. The use of compressed air as source of energy allows working continuously without problems of heating or motor overload. The mechanical parts are made up of steel and high resistant bronze and require a lubrication after many working hours.

Device components			
1	1/4" gas connection for the air connector	9	Sharpening button
2	Safet device to enable the control lever	10	Front guard of the blade (movable)
3	Control lever	11	Rear guard of the blade (fixed)
4	Supporting foot	12	Motor support
5	Polygonal blade	13	Silencer
6	Greaser	14	Reference drift
7	Pneumatic motor	15	Counterblade
8	Sharpener		



5. TECHNICAL FEATURES

Pneumatic scissors FP861MT features	
Blade diameter	86 mm with hard-metal counterblade
Blade speed	900 rev./min
Cutting working depth	about 20 mm
Power	380 W with max. pressure
Working pressure	max. 6 bar
Weight	1100 g
Weight with package	2000 g
Air consumption	9 litres/sec.
Minimum light for working operations	LUX 200
Vibrations at the start up	< 2,5 m/s ²
Temperature	0 ~ 55 °C
Humidity	10 ~ 95% without condensate

Features of the available blades	
86THSS	8 side blade Ø 86 mm, in H.S.S. steel
86PHSS	5 side blade Ø 86 mm, in H.S.S. steel
86THSSTN	8 side blade Ø 86 mm, in H.S.S. steel treated with titanium
86THSSTF	8 side blade Ø 86 mm, in H.S.S. steel covered with Teflon
86PHSSTN	5 side blade Ø 86 mm, in H.S.S. steel covered with Teflon
86TMD	8 side blade Ø 86 mm, in integral hard metal (Widia)

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The technical data are only indicative and they can be changed without notice.

6. NOISE LEVEL

The maximum acoustic pressure level emitted by pneumatic scissors FP861MT is about 60 dB (A).

Noise tests have been carried out in compliance with Standard ISO 11202. The device noise levels, measured at different distances (without any sound wave filtering system), vary in the extent of few db (A). The noise level has been detected with the silencer supplied with the fixture assembled on the exhaust. The silencer must never be removed.

NOTE

It is advisable for pneumatic scissors FP861MT owners to verify the compliance with the standard concerning safety of workers: refer to the Local Law. The use of ear protecting devices is compulsory.

7. FIELD OF APPLICATION

Pneumatic scissors FP861MT have been designed, manufactured and assembled to cut every kind of fabrics or materials, with the exception of metal, plastic or wood, by means of rotary pentagonal or octagonal blades.

This equipment must not work:

- in areas prone to explosions;
- in presence of fine dust or corrosive gases;
- to cut plastic, metal and wooden materials.

It is forbidden to use pneumatic scissors FP861MT for purposes different from the above-mentioned ones.

8. USE WARNINGS

We recommend following the indications below in order to always work in safety conditions.

- All the operations must be carried out complying strictly with the safety rules of the country where the machine is to be installed.
- It is STRICTLY FORBIDDEN to smoke during the installation or adjustment operations of the pneumatic scissors.
- The Customer undertakes to comply with and make his staff observe all the rules and regulations in force concerning safety, prevention of accidents and health in the work place. Therefore, the Customer assumes the responsibility to strictly follow all the rules and regulations in force, as well as the special provisions in force in sport and public installations the Customer declares to know after receiving all the relative necessary information.
- **The pneumatic scissors work also without their safety protective device and when the protection guard is lifted. This protective device must NEVER be removed.**
- Always check the resistance of the material to be cut and the kind of blade which is being used.
- The Customer shall equip his own personnel with all the individual safety protections for the execution of the works, as well as with the ones which might be prescribed by the Manufacturer due to specific danger conditions of the plant or of the area where the personnel must work.
- Only one operator must use the pneumatic scissors always standing behind the guide handle. Do not make any adjustment while the blade is working.
- Always pay attention to the position of the air pipe to prevent it from being cut or damaged by the blade.
- It is allowed to assemble pneumatic scissors FP861MT on machines O.E.M. on condition that their original structure is not modified. Otherwise, the intervention must be certified by Rasor®.
- The pneumatic scissors FP861MT are equipped with double safety push button with a lever and a ratchet on the handle: the ratchet prevents the start push button from being enabled accidentally, the lever operates the scissors. Never remove the ratchet.

9. RESIDUAL RISKS

Even though the pneumatic scissors are safe, operators must pay attention to preserve their and other people's safety.

- L The cutting blade can work even when the protective device is disassembled.

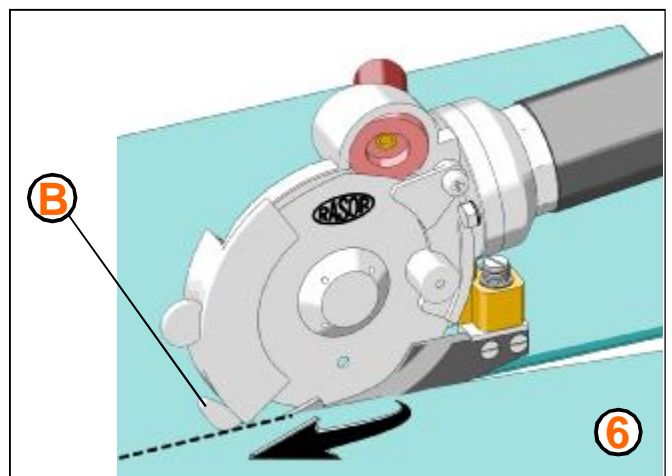
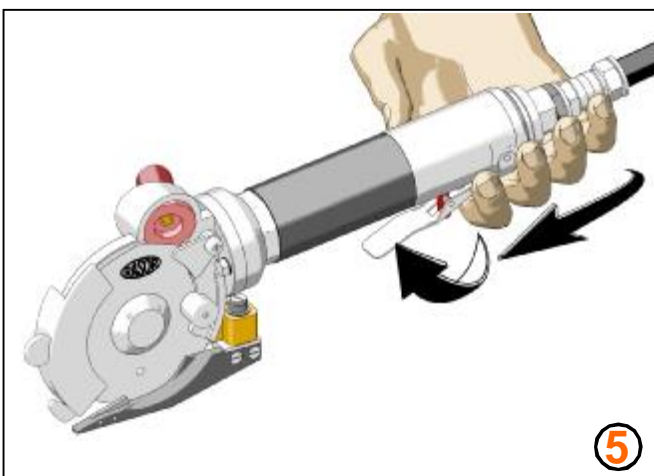
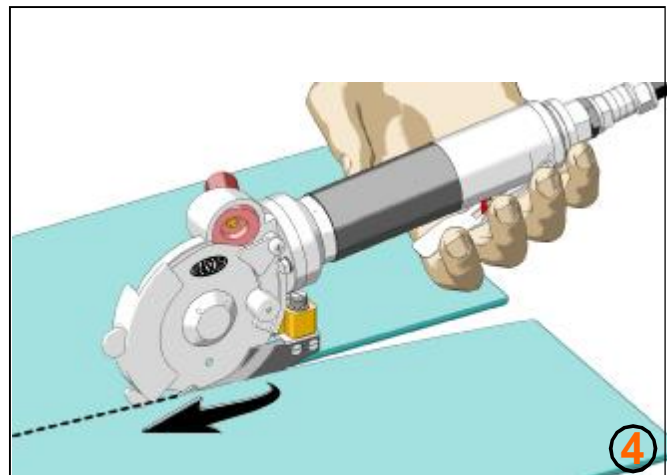
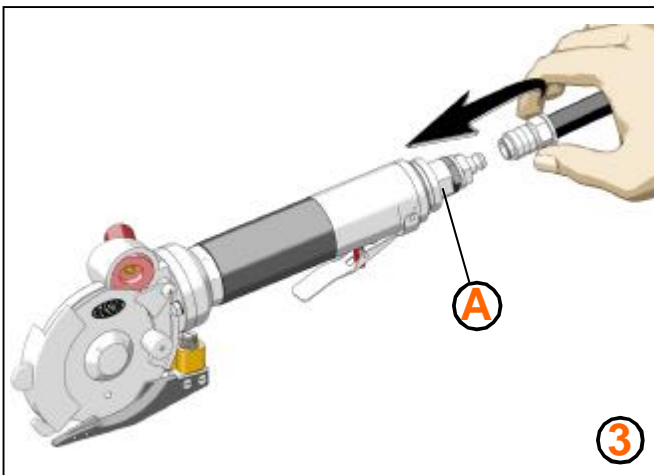
10. USE

To use the pneumatic scissors manually, proceed as follows:

- 1) Lay the material to be cut on the table;
- 2) Connect the air hose to the quick connection "A" (not supplied) (see picture 3);
- 3) Adjust the pressure gauge (optional) on 6 bar;
- 4) Put the material on the cutting foot (see picture 4);
- 5) Push the starting lever after moving the safety device (see picture 5);
- 6) Push the pneumatic scissors in the desired direction, being careful to keep the material in front of them as stretched as possible and preventing it from curling in the front part of the scissors.

NOTE

The thrust on the pneumatic scissors must be as uniform as possible. To carry out linear cuts with precision (and to follow predetermined paths), we also recommend using the arrow point on the front protection (see point "B" in figure 6).

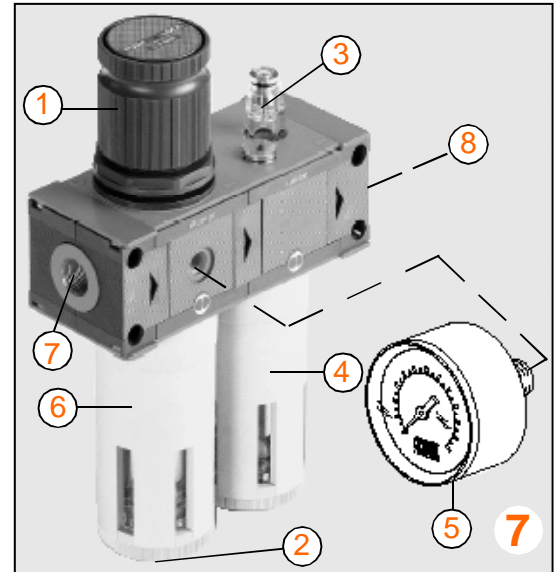


11. AIR PRESSURE GAUGE (OPTIONAL)

The pneumatic scissors must be necessarily fed with lubricated air with a pressure of maximum 6 bar. Rasor® offers, as optional, a reduction unit filter with a pressure gauge already calibrated with the quantity of oil to be delivered as optional.

The unit shown also in picture 7 is made up of:

- 1 - pressure reducer;
- 2 - valve to drain the condensate;
- 3 - drip-feed oiler unit;
- 4 - oil tank;
- 5 - pressure gauge;
- 6 - condensate tank;
- 7 - pipe fitting to connect the quick connection to the network;
- 8 - pipe fitting to connect the quick connection to the scissor.



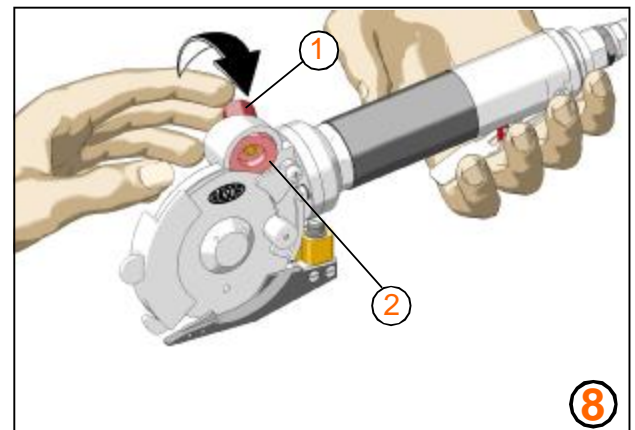
For the use and maintenance read the instruction sheet supplied with the filter.

12. BLADE SHARPENING

After using the machine for some hours without interruption, or if the machine cutting capacity is reduced, it is necessary to sharpen the blade. To carry out this operation, start the blade and press sharpener "2" on the blade itself (by means of push button "1", as shown in picture 8) for 3-4 seconds. Repeat this operation 2-3 times.

WARNING 

The sharpener button can be used only if the transparent guard is completely lowered.

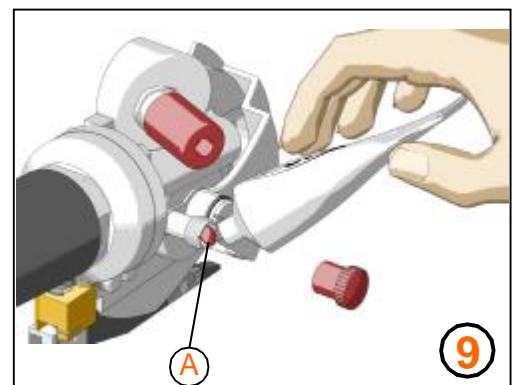


13. LUBRICATION

Every 3-4 working hours, it is necessary to lubricate the gear pair. In order to carry out this operation, remove protective plug "A" located on the head of the pneumatic scissors and fill it with the grease supplied. Screw plug "A" again a few turns. Screw plug "A" a few turns every 2-3 working hours (see picture 9).

WARNING 

The blade must never be dirty with grease or oil.

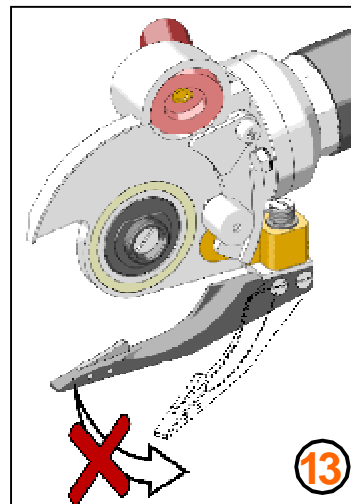
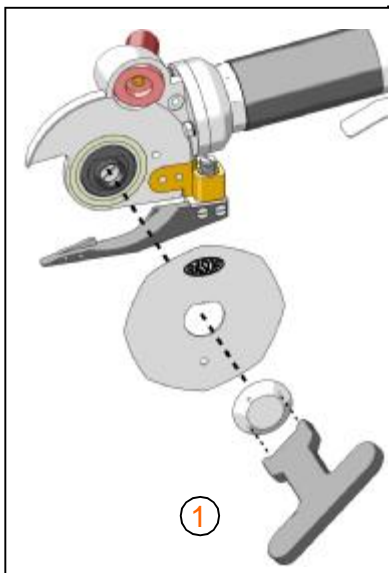
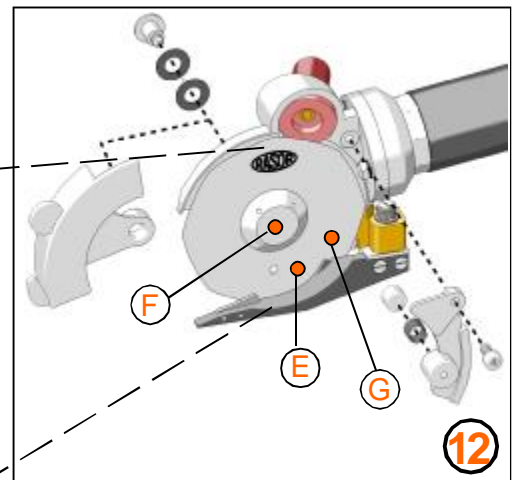
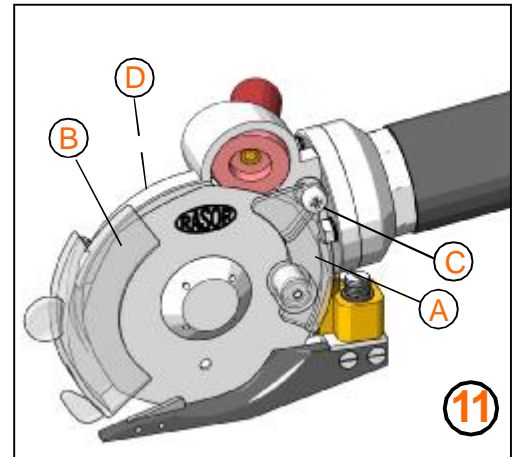
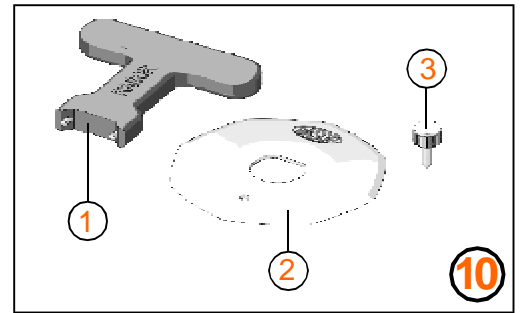


14. BLADE REPLACEMENT

If the blade is no more able to cut (even after repeating the sharpening operation several times) it is necessary to replace it. In order to carry out this operation, use butterfly wrench "1" and drift "3" locking the blade (shown in picture 10).

In order to replace the blade, proceed as follows:

- 1) Use some protective gloves in compliance with the Local Law of the Country where the machine is to be used (use of personal protection devices);
- 2) Remove fixed safety protection "A" and the movable front safety protection "B", by unscrewing respectively the cross screw "C" and the slotted screw "D" by means of a screwdriver (not supplied by the manufacturer), as shown in picture 11.
- 3) Insert drift "3" (see picture 10) in hole "E" in order to lock the blade (the hole in the blade must correspond to the hole in the structure).
- 4) Use butterfly wrench "1" in order to unscrew nut "F" and remove blade "G" (see picture 12).
- 5) Replace the worn blade with the new one "2", being careful to center the blade on the gear, in the correct position, and remember to assemble it with its sharp side (the one with the writing Rasor) positioned towards the external side of the pneumatic scissors.
- 6) Assemble all the components again and carry out some cutting and sharpening tests.



IMPORTANT!

Never rotate the supporting foot beyond the proper locking screw. This operation could damage the springs and make the cutting quality worse (see picture 13)

15. TROUBLESHOOTING

6 PROBLEM

a SOLUTION

The fabric is not cut or it gets stuck between the blade and the counterblade

- Check the counterblade integrity
- Check the kind of fabric
- Sharpen the blade
- Check the fabric thickness
- Check the compatibility between blade and fabric
- Make sure that the turbine turns correctly
- Check the force of the steel foot springs
- Reduce the feeding speed

The pneumatic scissors are noisy

- Carry out the lubrication
- Disassemble the blade and remove the material residues
- Check the silencer
- Check the wear of the gear pair

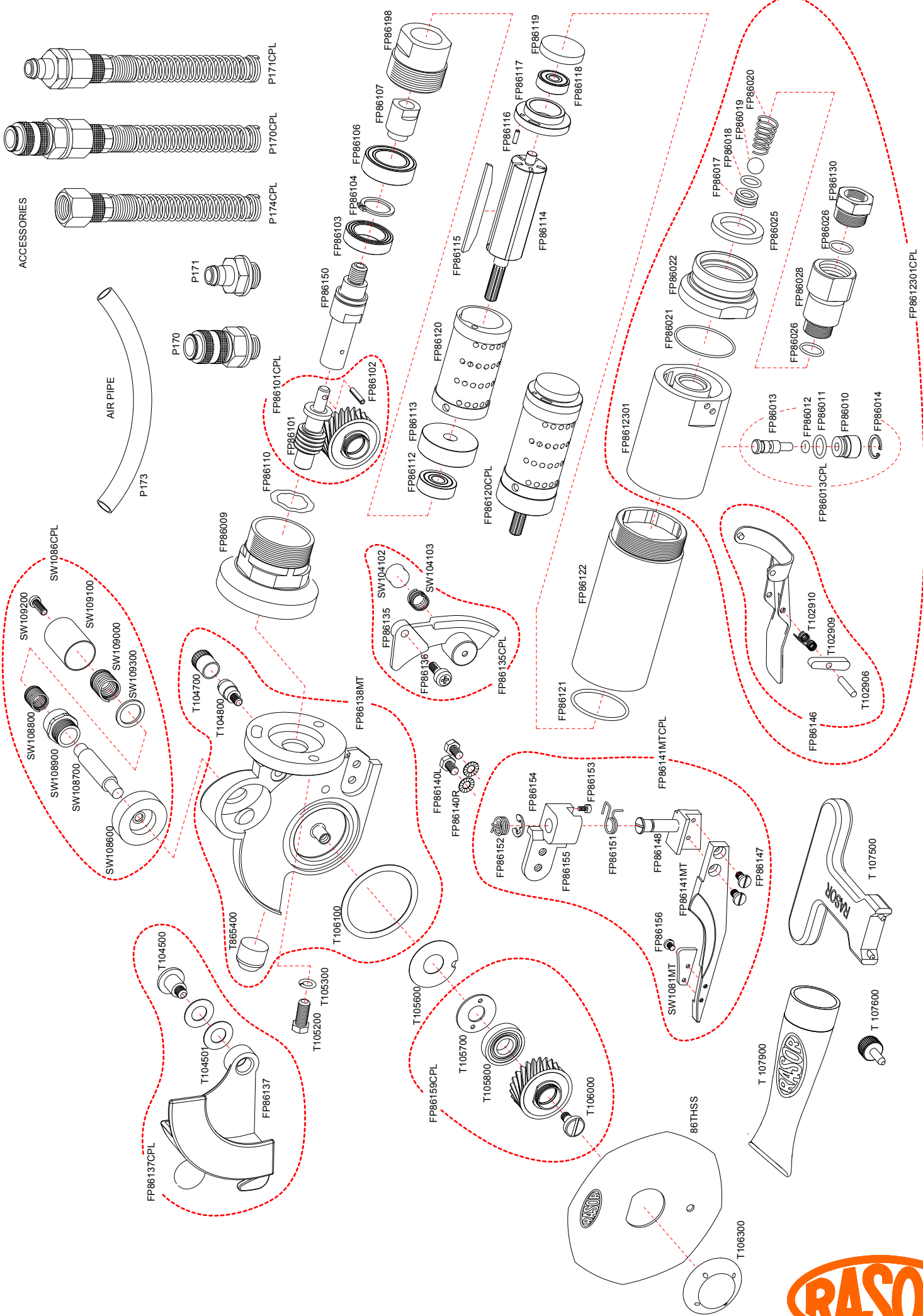
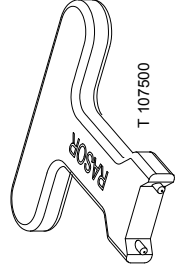
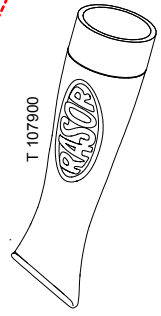
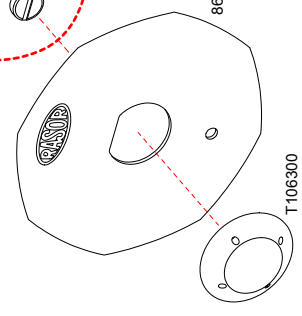
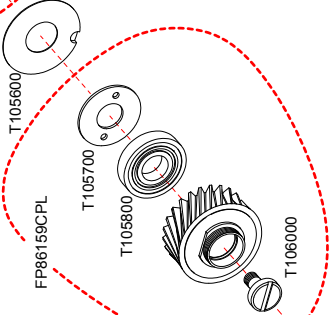
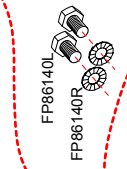
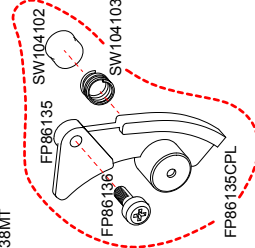
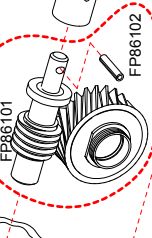
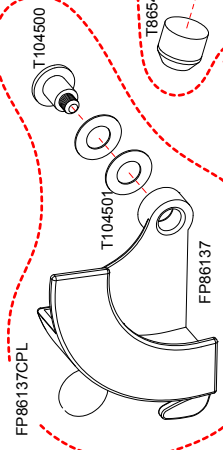
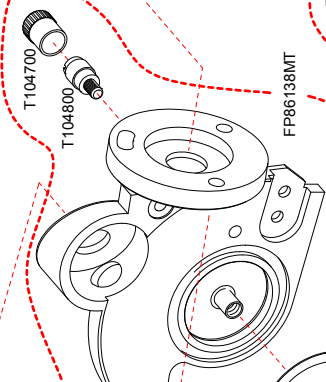
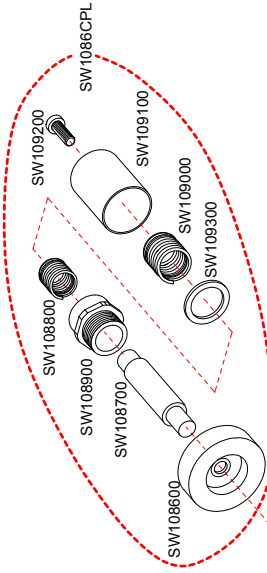
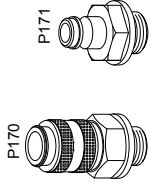
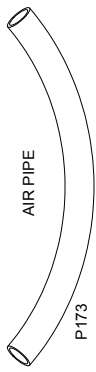
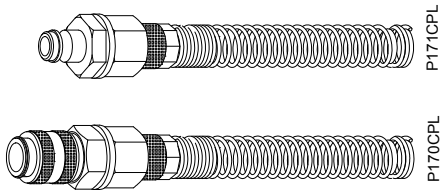
The scissors start slowly or work intermittently

- Check the pneumatic circuit integrity
- Adjust the working pressure at 6 bar

16. SPARE PARTS / EXPLODED VIEW

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
86THSS	8-SIDE BLADE 86 mm, H.S.S. STEEL	FP 86108	THREADED RING NUT	FP 86138MT	COMPLETE MOTOR SUPPORT	SW108900	SHARPENER BUSH
FP 86000CPL	COMPLETE MOTOR UNIT	FP 86110	COMPENSATOR RING	FP 86140L	FOOT FIXING SCREWS	SW109000	EMERY SPRING Ø 6 mm
FP 86009	COUPLING FLANGE	FP 86111	COMPENSATION BUSH	FP 86140R	TOOTHED WASHER	SW109100	SHARPENER CAP WITH BEARING
FP 86010	PISTON GUIDE	FP 86112	MOTOR FLANGE BEARING	FP 86141MT	STEEL MOVABLE FOOT	SW109200	SHARPENER CAP FIXING SCREW
FP 86011	PISTON GUIDE O' RING	FP 86113	FRONT FLANGE	FP 86141MTCPL	ROTATING FOOT SET	SW109300	STEEL WASHER
FP 86012	PISTON GUIDE O' RING	FP 86114	ROTOR	FP 86146	COMPLETE CONTROL LEVER	T102906	LEVER FIXING PIN
FP 86013	PISTON	FP 86115	ROTOR BLADE	FP 86147	MOVABLE FOOT FIXING SCREW	T102909	RATCHET FOR LEVER SERIES 2002
FP 86013CPL	COMPLETE PISTON WITH GUIDE	FP 86116	POSITIONING PIN	FP 86148	ROTATING SUPPORT WITH PIN	T102910	RATCHET SPRING
FP 86017	VALVE	FP 86117	REAR FLANGE	FP 86150	COUPLING SHAFT	T104500	FRONT PROTECTION FIXING SCREW
FP 86018	VALVE O' RING	FP 86118	REAR FLANGE BEARING	FP 86150CPL	COMPLETE COUPLING SHAFT	T104501	PAIR OF CONVEX WASHERS
FP 86019	STEEL BALL	FP 86119	REAR FLANGE CAP	FP 86151	LOWER SPRING MT	T104700	GREASER CAP
FP 86020	SPRING	FP 86120	CYLINDER	FP 86152	UPPER SPRING MT	T104800	GREASER
FP 86021	SILENCER HOUSING O'RING	FP 86120CPL	COMPLETE TURBINE	FP 86153	FIXING SCREW	T105200	SUPPORT FIXING SCREW
FP 86022	SILENCER HOUSING	FP 86121	O'RING GASKET	FP 86154	STOP RING	T105300	WASHER
FP 86025	BRONZE SILENCER FILTER	FP 86122	MOTOR FRAME	FP 86155	BRONZE ROTATING BUSH	T105600	SHAVING WASHER
FP 86026	REDUCTION UNIT O' RING	FP 86123	CONTROL HEAD	FP 86156	COUNTERBLADE FIXING SCREW	T105700	BEARING FIXING RING NUT
FP 86028	REDUCTION UNIT	FP 8612301CPL	COMPLETE CONTROL HEAD	FP 86159CPL	COMPLETE RING GEAR	T105800	GEAR RING BEARING
FP 86101	GEAR WORM SCREW	FP 86126	HANDLE FOR HOOK	SW104102	OILER RING	T106000	LEFT SCREW FOR GEAR FIXING
FP 86101CPL	COMPLETE GEAR PAIR	FP 86130	1/4" CONNECTOR WITH FILTER	SW104103	OILER SPRING	T106100	SUBBLADE RING
FP 86102	ELASTIC PIN	FP 86135	REAR GUARD	SW1081MT	HARD METAL COUNTERBLADE	T106300	BLADE FIXING RING NUT
FP 86103	SHAFT FRONT BEARING	FP 86135CPL	REAR PROTECTION SET	SW108600	EMERY TYPE Ø 25 x9 x 6	T107500	BLADE DISASSEMBLING WRENCH
FP 86104	SNAP RING	FP 86136	4MA SCREW FOR GUARD FIXING	SW1086CPL	COMPLETE EMERY UNIT	T107600	BLADE LOCKING DRIFT
FP 86106	SHAFT REAR BEARING	FP 86137	FRONT GUARD	SW108700	EMERY PIN	T107900	LUBRICATING GREASE
FP 86107	JOINT	FP 86137CPL	FRONT PROTECTION SET	SW108800	EMERY SPRING Ø 11 mm	T865400	ANTI-FRICTION BUSH

ACCESSORIES



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WARRANTY

Rasor® Elettromeccanica S.r.l. pneumatic scissors have a 12 month warranty from the date indicated on the last page of this manual, except in case of different written agreements. The warranty covers all manufacturing and material defects. Replacement and repair operations are covered only if carried out by our company and at our workshop.

In case of returned goods for repair under warranty, **the Customer must send to Rasor® always the complete machine. Repairs under warranty of single faulty components are not accepted.**

The material to be repaired must be sent CARRIAGE FREE.

Once the machine has been repaired, it will be sent CARRIAGE FORWARD to the customer. The warranty covers neither technicians' intervention on site nor the machine disassembly from the installation place.

If for practical reasons, one of our technicians is sent to the premises, the customer will be charged the costs plus the travelling expenses.

The warranty does not include:

- + failure caused by wrong use or assembly,
- + failure caused by external agents,
- + failure caused by lack of maintenance or negligence;
- + blades and components subject to wear.

WARRANTY FORFEITURE:

- + In case of arrearage or other breaches of contract,
- + Whenever changes or repairs are carried out on our electric scissors without our prior authorization,
- + Whenever the serial number is tampered with or cancelled,
- + Whenever the damage is caused by improper use, bad treatment, bumps, falls and other causes not due to normal working conditions,
- + Whenever the unit seems tampered with, dismantled or previously repaired by unauthorized staff,
- + In case the pneumatic scissors are used for purposes that are different from the ones described in this manual.

All repair operations carried out under warranty do not interrupt its duration.

All disputes will be settled in the court of justice of Milan (Italy).

We thank you in advance for the attention you will pay to this manual and we invite you to inform us of any change you deem necessary to improve it and make it more complete.

DECLARATION OF CONFORMITY



We hereby certify that the machine specified hereunder complies to the requirements of Machinery Directive 2006/42/EC, Electromagnetic Compatibility 2004/108/EC and CEI EN 60204-1, Directive 2002/44/EC and to technical rulings UNI EN 414:2002, UNI EN ISO 12100-1:2005 and UNI EN ISO 12100-2:2005.

Noise tests have been carried out according to UNI EN ISO 11202 Standards. .

Pneumatic scissors FP861MT have been produced according to workmanlike standards.

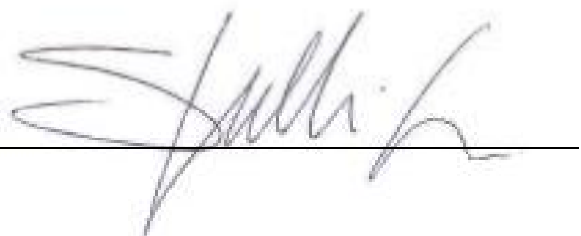
We declare that the above-mentioned goods comply with the standards in force concerning safety and hygiene at work that can be applied to the material itself according to the Italian legislative decree No. 81/08; the above-mentioned goods are not included in the goods indicated in annex IV of MACHINE Directive 2006/42/EC.

- 1. Category: **PNEUMATIC SCISSORS**
- 2. Manufacturer: **RASOR®ELETTROMECCANICA S.R.L.**
- 3. Type: **FP861MT**
- 4. Serial number:
- 5. Year of manufacture:
- 6. Country of manufacture: **ITALY**
- 7. Additional information:

Date:

Warranty expiration:
12 months from the invoice date or receipt

RASOR ELETTROMECCANICA S.R.L.
CUTTING EQUIPMENTS





Authorized dealer
(Stamp)