



DS503MT

ELECTRIC SCISSORS



USE MANUAL

Rasor® Elettromeccanica S.r.l. was established in Milan in 1946 by Luigi Spinelli. 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.

ACKNOWLEDGEMENT

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 using 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 electric scissors DS503MT 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 electric scissors DS503MT, 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.**
Prevent the electric scissors DS503MT components from coming in contact with damp or wet surfaces.
- **KEEP CHILDREN AWAY.**
Unauthorized persons, in particular children, must be kept away from the working area.
- **FEED CABLE.**
Prevent the feed cable from coming in contact with hot objects, pointed surfaces or sharp edges. Never pull the feed cable of the machine. It must never be replaced by the user. If necessary contact professionally qualified staff.
- **KEEP THE WORKING AREA ALWAYS IN ORDER.**
The workplace must always be kept in order and well lightened; liquids or oil traces must not be present.
- **ALWAYS USE ELECTRIC SCISSORS DS503MT 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 electric scissors DS503MT, 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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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 and they cannot cut wet or damp materials. Moreover, they cannot work in case of rain.

In case of damage or malfunction, electric scissors DS503MT 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-cutters.com
web: www.rasor-cutters.com

WARNING



The original configuration of the electric 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®.

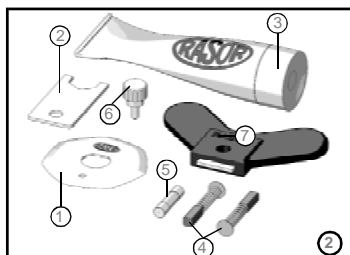
Also make sure the scissors have not been damaged during transport.



2. TRANSPORT AND PACKING

The electric scissors are delivered in a carrying case, inside which there are various options. 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) Heptagonal blade (7 sides);
- 2) Hexagonal wrench for grinding wheel nut tightening;
- 3) Grease tube;
- 4) Brushes for electric motor;
- 5) Fuse;
- 6) Drift for blade disassembly;
- 7) Butterfly wrench for blade nut disassembly.

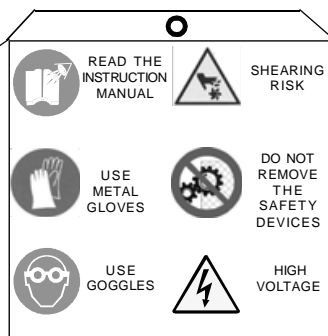
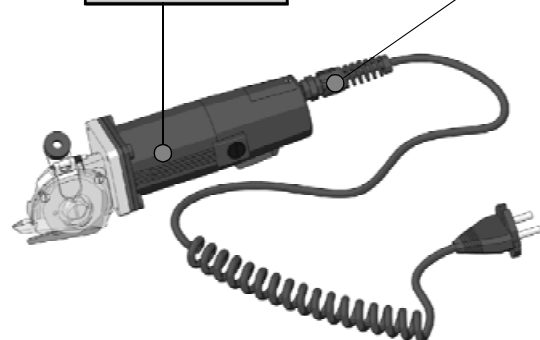


3. PLATE DATA

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



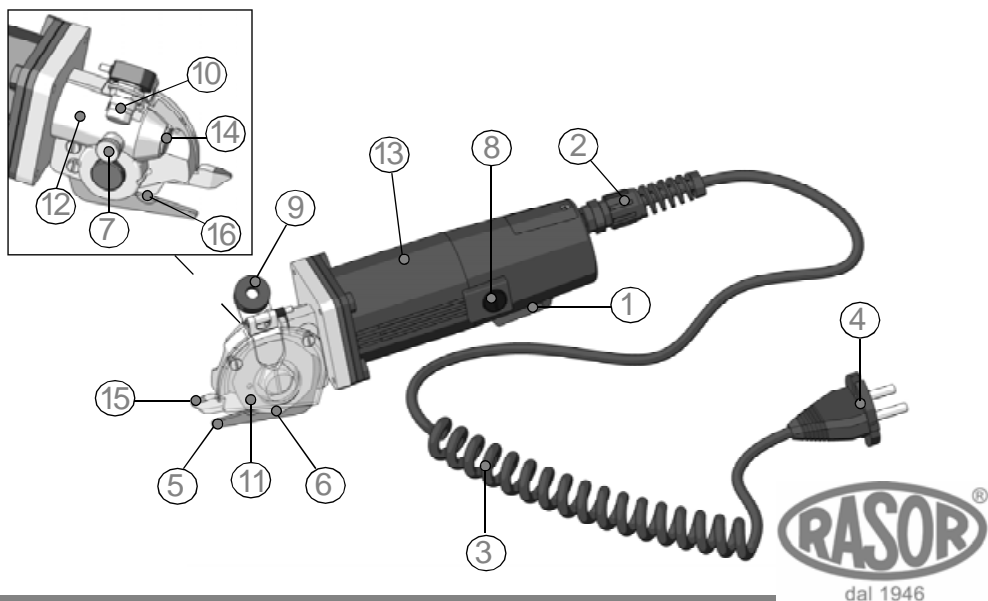
4. PRODUCT DESCRIPTION

The fixture described in this manual are electric scissors model DS503MT which are used in order to quickly cut composite materials, in particular the fiber glass. They are extremely versatile, light and precise in the cutting operation. Thanks to the use of a thin foot and an effective cutting system with heptagonal, circular or decagonal blade, it is possible to use the electric scissors for the precise trimming of molds, stuffed materials, leathers and laminated materials. One special feature of electric scissors DS503MT 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 electric scissors DS503MT are extremely light (they weight only 900g) and handy and allow carrying out quick and precise cuts, even with curve profiles. A high power motor, perfectly balanced, with a high number of revolutions and totally free of maintenance, reduces the vibrations to the minimum. For this reason the electric scissors comply with European Directive No. 2002/44/EC concerning the risks deriving from mechanical vibrations.

The mechanical parts are made of high-quality steel and bronze and require lubrication after several working hours.

Device components			
1	Enabling push button	9	Emery grinding wheel
2	Spiral cable gland	10	Sharpening button
3	Spiral electrical cable	11	Blade protection guard
4	Two-pole Contur plug	12	Motor support
5	Supporting foot	13	Motor casing
6	Polygonal blade	14	Worm screw adjustment
7	Greaser	15	Reference point
8	Brush holder cap	16	Carbide counterblade



5. TECHNICAL FEATURES

Electric scissors DS503MT features

Blade diameter	50 mm with carbide counterblade
Blade speed	1.800 rev./min
Cutting working depth	about 8 mm
Motor power	60 W
Max. absorption	0,5 A
Weight (with feeding cable)	900 g
Weight (with package)	1300 g
Electrical cable length	1,5 m
Minimum luminosity for working operations	LUX 200
Vibrations at the start up	< 2,5 m/s ²
Temperature	0 ~ 55°C
Humidity	10 ~ 95% without condensate

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

Features of the available blades

50CK	K190 steel circular blade
50SEXT	Extra steel heptagonal blade
50SGHSS	HSS Germany steel heptagonal blade
50CHSS	HSS steel heptagonal blade
50SHSSTF	HSS steel heptagonal blade covered with Teflon®
50SEXT G	Extra steel Germany heptagonal blade
50SHSS	HSS steel heptagonal blade
50SMD	Solid carbide heptagonal blade
50DHSS	HSS steel decagonal blade

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6. RUMOR LEVEL

The maximum acoustic pressure level emitted by electric scissors DS503MT is about 60 dB (A). Noise tests have been carried out in compliance with Standard UNI EN ISO 11202:2010. The device noise levels, measured at different distances (without any sound wave filtering system), vary in the extent of few db (A).

NOTE

It is advisable for electric scissors owners to verify the compliance with the standard concerning safety of workers: Italian legislative decree 81/08. The use of ear protecting devices is compulsory.

7. FIELD OF APPLICATIONS

Electric scissors DS503MT 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 circular, decagonal or heptagonal blades.

This equipment must not work:

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

It is forbidden to use electric scissors DS503MT 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 electric 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 electric scissors work also without their safety protective device. 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 electric scissors always standing behind the guide handle. Do not make any adjustment while the blade is working or while the electric plug is connected.
- Always pay attention to the electric cable position to prevent it from being cut or damaged by the blade.
- It is allowed to assemble electric scissors DS503MT on machines O.E.M. on condition that their original structure is not modified. Otherwise, the intervention must be certified by Razor®.

9. RESIDUAL RISKS

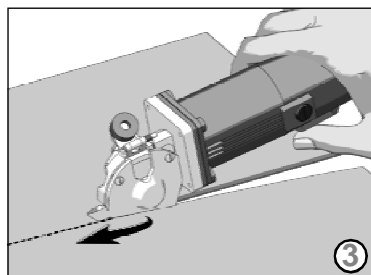
Even though the electric scissors are safe, operators must pay attention to preserve their and other people's safety.

- ⊗ At the end of the working operations, the motor could be very hot.
- ⊗ The cutting blade can work even when the protective device is disassembled.

10. USE

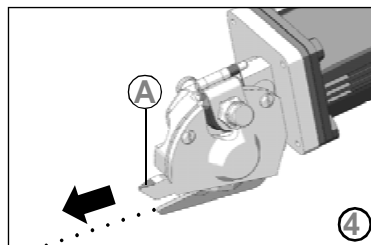
To use the electric scissors manually, proceed as follows:

- 1) Lay the material to be cut on a table;
- 2) Connect the scissors to the power supply;
- 3) Put the material on the cutting foot;
- 4) Enable the enabling push button (see picture 3);
- 5) Push the electric 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

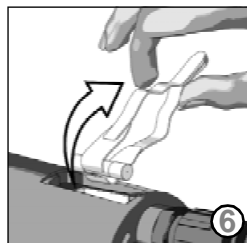
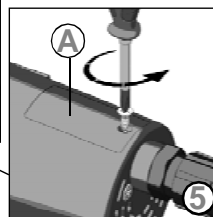
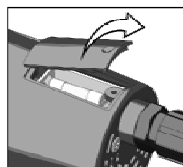
The thrust on the electric scissors must be as uniform as possible. To carry out linear cuts with precision (and to follow predetermined paths), we also recommend using the arrow point (see point "A" in figure 4).



11. MOTOR FUSE REPLACEMENT

In order to replace the motor fuse, proceed as follows:

- 1) Disconnect the scissors from the power supply;
- 2) Remove the screw from the fuse cover (see point "A" figure 5);
- 3) Take out the glass fuse by means of the proper pliers supplied (see figure 6);
- 4) Verify its integrity (see figure 7) and, in case, install a new fuse checking the correct amperage;
- 5) Close the cover and tighten the screw.



WARNING



Never use the scissors when the fuse cover is open.
Risk of electric shock.

12. REPLACEMENT OF THE MOTOR BRUSHES

Electric scissors DS503MT are provided with a high power permanent magnet motor and torque. For this reason it is necessary to check periodically if the carbon brushes are worn in order not to jeopardize the motor operation and its duration period. Unscrew the caps located on the cover by means of a slotted screwdriver; withdraw the carbon brushes, check if they are worn and, if needed, replace them. Assemble the two caps again, being careful to hold them in a perfectly vertical position, and screw them completely only when you are sure that the mouth is the correct one.

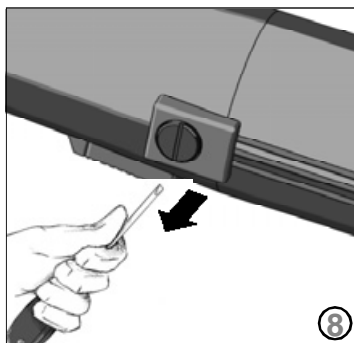
Note: The brush must be inserted with its black part directed inside the motor.

Note: A slight difference in the wear of the two brushes is absolutely normal in a permanent magnet motor. Nevertheless, in the event that the difference between them is excessive, it is necessary to apply to a technical center for a complete check of the fixture.

WARNING



Before carrying out any operations on the electric scissors, make sure that the supply plug is not connected to the mains.

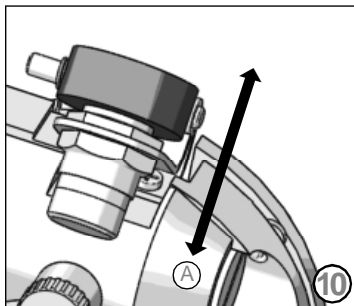
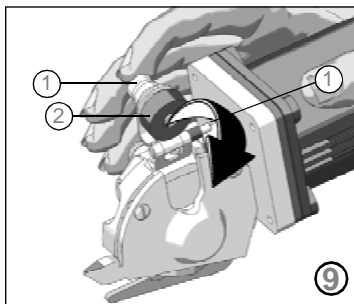


13. EMERY GRINDING WHEEL ADJUSTMENT

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 emery grinding wheel "2" on the blade itself (by means of push button "1", as shown in figure 9) for 3-4 seconds.

Repeat this operation 2-3 times.

The emery grinding wheel can slide along its seat (see figure 10) in order to vary the sharpening angle. If the blade, after various sharpening operations, has a chamfer (sharp perimeter) with an excessive length (higher than 1.5 mm), it is necessary to slightly move the emery grinding wheel away from the blade. In order to do this, it is sufficient to slightly loosen the screws without removing them, making the emery grinding wheel slide toward direction A, and then tighten the two screws again.



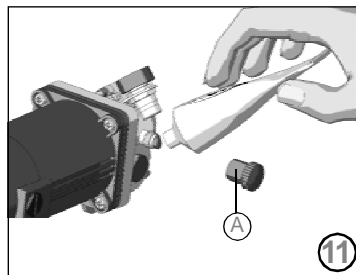
14. LUBRICATION

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 electric 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 figure 11).

WARNING



The blade must never be dirty with grease or oil.

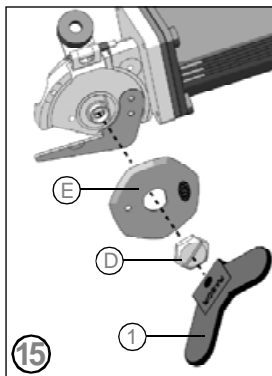
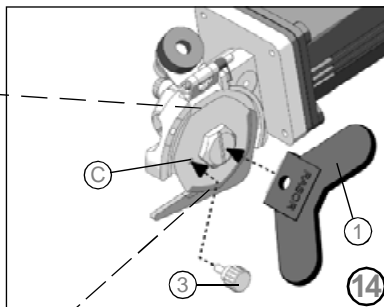
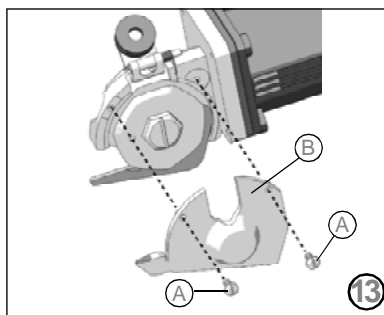
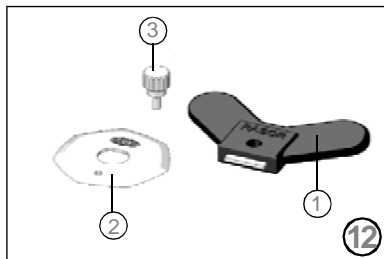


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15. BLADE REPLACEMENT

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 figure 12). In order to replace the blade, proceed as follows:

- 1) Use some protective gloves in compliance with Italian Legislative Decree 81/08.
- 2) Remove safety protection "B", by unscrewing the two slotted screws "A" by means of a screwdriver (not supplied by the manufacturer), as shown in figure 13.
- 3) Insert drift "3" (see figure 14) in hole "C" 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 "D" and remove blade "E" (see figure 15).
- 5) Replace the worn blade with the new one "2", being careful to center the blade on the shaft, 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 electric scissors.
- 6) Assemble all the components again and carry out some cutting and sharpening tests.



16. TROUBLESHOOTING

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✖ PROBLEM	⇒ SOLUTION
The fabric is not cut or it gets stuck between the blade and the counterblade	Verify that the cutting foot has the correct position and thrust force on the blade
	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 motor turns correctly
The electric scissors are noisy	Reduce the feeding speed
	Carry out the lubrication
The scissors start slowly, work intermittently or do not start	Disassemble the blade and remove the material residues
	Replace the protection fuse
	Check the motor brushes

17. SPARE PARTS / EXPLODED VIEW

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
F 5001	SPIRAL ELECTRICAL CABLE	F 5019CPL	220 V COMPLETE ROTOR	F 503101	GEAR SCREW ADJUSTMENT	F 5051	EMERY GRINDING WHEEL HINGE
F 5004	PUSH BUTTON SPRING	F 5020	FAN	F 50310F1	FUSE 1A	F 5051/1	EMERY GRINDING WHEEL HINGE SPRING
F 5005	PUSH BUTTON LEVER	F 5021	6x19x6 MOTOR BEARING	F 5032	GEAR RING CENTRAL PIN	F 5051/2	SCREW FIXING THE HINGE SPRING
F 5006	UNIPOLAR ENABLING PUSH BUTTON	F 5022	SPRING FIXING THE BEARING	F 5033	GREASER CAP	F 5051CPL	COMPLETE EMERY GRINDING WHEEL
F 5007L	CARBON BRUSH - LONG SERIES	F 5023	COMPENSATION RING	F 5034	GREASER	F 5052	SCREW FIXING THE EMERY GRINDING WHEEL HINGE
F 5008	PLATE FIXING THE SWITCH	F 5024	LOWER MOTOR COVER	F 5036	SHIM ADJUSTMENT WASHER	F 5054	3.5MA SCREW FIXING THE FOOT
F 5009	U BOLT FIXING THE CABLE	F 5025	SCREW FIXING THE MOTOR COVER	F 5037	RING NUT FIXING THE BEARING	F 5057	DRIFT LOCKING THE BLADE
F 5009/1	SCREW FIXING THE U BOLT	F 502601CPL	MOTOR SUPPORT	F 5038	GEAR RING BEARING	F 5059	WRENCH FOR BLADE DISASSEMBLY
F 501101	RIGHT CONTACT TERMINAL	F 5027	JOINT	F 5039CPL	COMPLETE GEAR RING	F 506002	BRUSH CONTACT SPRING
F 501102	LEFT CONTACT TERMINAL	F 5029	5x11x4 GEAR SCREW BEARING	F 5040	3.5MA SCREW FIXING THE GEAR RING	F 5061L	SCREW FIXING THE CONTACTS
F 5012	PLATE FIXING THE BEARING	F 502901	5x13x4 GEAR SCREW BEARING	F 5042	RING NUT FIXING THE BLADE	F 5062	CARBON BRUSH HOLDER
F 5013	SCREW FIXING THE MOTOR COVER	F 5029/2	SEGER RING	F 5043	BLADE PROTECTION GUARD	F 5063	CARBON BRUSH HOLDER CAP
F 5014	SCREW FIXING THE SWITCH PLATE	F 5030	GEAR WORM SCREW	F 5044	GUARD FIXING SCREW	F 5064	WRENCH FOR EMERY DISASSEMBLY
F 5015	SCREW FIXING THE BEARING PLATE	F 503001CPL	COMPLETE GEAR SCREW	F 5045	PLATE WITH EMERY	F 7002	PLASTIC FLEXIBLE CABLE GLAND
F 5017	5x16x5 MOTOR BEARING	F 50302	MOTOR COVER	F 5046	STEEL WASHER	LA 50SEXT	7-SIDE BLADE, 50 mm, EXTRA STEEL
F 5018	MOTOR FRAME WITH MAGNETS	F 50302CPL	COMPLETE MOTOR COVER	F 5047	THREADED BUSH	P053/1CPL	FOOT WITH WELDED COUNTERBLADE
F 5018/1	PAIR OF PERMANENT MAGNETS	F 50303	FUSE COVER	F 5048	RETAINING RING	PA FRN50MT	COMPLETE SET OF DS503MT ACCESSORIES
F 501901CPL	110 V COMPLETE ROTOR	F 50304	SCREW FIXING THE FUSE COVER	F 5049	COMPLETE EMERY UNIT	PA T107900	LUBRICATING GREASE
F 501902CPL	48 V COMPLETE ROTOR	F 50310	ELECTRONIC CIRCUIT WITH FUSE	F 5050	EMERY CAP		

WARRANTY

Rasor® Elettromeccanica S.r.l. electric 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. If in-warranty goods need to be repaired, **the customer must always send the complete machine to Rasor®.**

Single units will not be repaired under warranty.





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 parts 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 electric 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.

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