The manufacturer *L.M. s.n.c.* wishes to thank you for your choice in selecting our machine. You will be guaranteed the best results if you carefully follow the instructions that are contained in this manual.

We further wish to inform you that in the case of any comments or objections, the text of the manual to be refereed to will be that in Italian.

The **guarantee** is valid for **1 year** on electrical and mechanical parts.

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Section 2) Introduction.

Section 3) Instructions, do's and don’ts and various uses of the machine.

**INSTRUCTIONS FOR THE INSTALLER**

Section 4) Instructions for shipping, uncrating, moving and storage of the machine.

Section 5) Instructions on how to set-up the machine.

**INSTRUCTIONS FOR THE OPERATOR**

Section 6) Descriptions of the machine.

Section 7) Instructions for use and ordinary maintenance of the machine.

**DRAWING AND PARTICULARS:** (MILLING ROOM – LOADER ROOM – MANUAL LOADER – LENS DRAG GROUP – STANDARD CUTTER AND DRILLS – INSTRUCTIONS FOR CUTTER ASSEMBLY – INSTRUCTIONS FOR ASSEMBLING LENS CLAMP GROUP – INSTRUCTIONS FOR REPLACING THE LEAD NUT OF THE LOADER) from page 13 to page 19

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**INSTRUCTIONS FOR MAINTENANCE AND REPAIR MAN**

Section 8) Instructions for extraordinary maintenance and procurement of spare parts.

Technical characteristics
List of electrical components
Electrical schematic diagram
Pneumatic schematic diagram
Filter group

9) Instructions on how to disassemble, render inoperative, and demolish the machine.

**APPENDIX:** **cards containing base parameters** to insert in the computer for carrying out the **best cut** of ACRYLIC – CR – POLYCARBONATE lenses
2) INTRODUCTION

This manual is presented in a simple and rational manner, so that if read carefully, you will become thoroughly familiar with the machine. We recommend that you attentively read the contents of this manual and that you keep it within reach of the machine. The Instructions and warnings contained in this manual cannot be all inclusive, it is therefore, important to keep present that common sense, careful attention and prudence cannot be included by the manufacturer but must be foreseen by the installer, the maintenance man, or the operator of the machine.

Whoever operates the machine must carefully read this manual. If the machine requires any repair the manufacturer strongly recommends that only original parts be used; for ordering spare parts see sect. 8.

The descriptions and illustrations, contained in this manual, are not to be considered definitive. The manufacturer, therefore, reserves the right to modify this manual and/or carry out modifications to parts, components and accessories, without prior warning, whenever it may be considered opportune, so as to improve the machines performance, or marketability or for any other reasons deemed necessary by the manufacturer.

3) INSTRUCTIONS, DO'S AND DON'TS AND VARIOUS USES OF THE MACHINE

During cleaning and maintenance, the electrical power and compressed air must be disconnected. Care must be given so as to avoid placing hands or tools on or near any moving parts, such as; the motor, belts, cutters, etc. In case of any accidents the manufacturer declines any responsibility for any injuries incurred by the operator or others during the operation, maintenance or cleaning of the machine.

During the use and maintenance of any electrical or electronic apparatuses, certain precautions must be followed:

• do not touch the apparatus while hands or feet are wet or humid,
• do not use the apparatus while barefooted,
• do not expose the apparatus to atmospheric elements, such as, rain, salt water, etc.,
• do not allow children or unqualified personnel to operate the apparatus without adequate supervision,
• do not remove protective guards or shields,
• do not lay any tools or other objects on apparatus during operation,
• do not spray water either directly or indirectly on the apparatus, and avoid installing it in any area where such occurrence could take place.

ANY USE OF THE MACHINE NOT EXPLICITLY INDICATED BY THE MANUFACTURER IS TO BE CONSIDERED DANGEROUS, THEREFORE, THE MANUFACTURER IS NOT TO BE HELD RESPONSIBLE FOR ANY INJURIES OR DAMAGES THAT MAY BE CAUSED DUE TO AN IMPROPER, ERRONEOUS OR IRRATIONAL USE THEREOF.
INSTRUCTIONS FOR THE INSTALLER

4) INSTRUCTIONS FOR SHIPPING, UN-CRATING AND STORAGE OF THE MACHINE

4.1) SHIPPING OR MOVING THE MACHINE

If the machine has to be moved and/or shipped it would be useful to follow carefully the following recommendations:

• whenever the machine has to be moved within the plant, use its special pallet or an equivalent,
• use a hand operated or electrical fork-lift with a lifting capacity suitable for the machine (see technical data, sect.8),
• the machine must never be dragged in any manner.

If the machine has to be shipped it must be adequately crated so as to guarantee a sufficient stability during transportation.

4.2) STORAGE

If the machine has to be left in storage for an extended period of time, before its use, leave it in its original crate. This will guarantee an excellent protection for the machine. Make certain that the storage area corresponds with the conditions underwritten in sect. 5.3. If the machine must remain inactive for a long period of time, after its initial use, make certain that it is disconnected from the electrical power and that it is covered with a protective cover made of nylon or any other similar material.

4.3) UN-CRATING

1. Before accepting delivery of the machine from the shipping company, check the conditions of the crate. If the crate shows visible signs of damage there is a good chance that the machine may also have been damaged. In such case un-crate the machine in the presence of the delivery person, then, with reservations, sign the delivery note. Any eventual damages due to faulty shipping or storage are not to be considered the fault of the manufacturer.

2. Un-crate the machine with extreme care so as to avoid any damage to it.

3. Make certain that the instruction manual is removed from the crate, and that it not get lost.

All the crating material (plastic bags, Styrofoam, wood, cardboard, nails, etc.) should not be left within the reach of children, as it could present a danger to them. The material should be saved for eventual shipping or storage of the machine (see sect. 4.2). Before connecting the machine to the electrical power, make sure that the voltage corresponds with that specified on the machine. This machine should be used only for those operations for which it was specifically designed.
5 INSTRUCTIONS ON HOW TO SET-UP THE MACHINE

5.1 INSTRUCTIONS FOR PLACEMENT OF THE MACHINE

Set the machine on a work bench or table, it is suggested that the height from the floor is 80-90 cm., making sure that it can support a weight of 30 Kg. Then, level the machine with the regulating stands.

5.2 SPACE REQUIRED FOR INSTALLATION, USE AND MAINTENANCE OF THE MACHINE

The machine requires a minimum work area as indicated in the following diagram:

![Diagram of machine placement](image)

5.3 WORK PLACE CONDITIONS TO BE FOLLOWED FOR A CORRECT USE OF THE MACHINE (the operator is to be informed thereof).

TYPE OF WORK PLACE: CLOSED
MIN. TEMPERATURE: 10°C - 50°F
MAX. TEMPERATURE: 40°C - 104°F
RELATIVE HUMIDITY: 75% U.R.
LIGHTING (E): 100 LUX (Value valid only for Italy. Consult your local laws for applicable lighting requirements.)
5.4) ELECTRICAL CONNECTIONS

The electrical connections are to be carried out by qualified personnel, following the instructions provided by the manufacturer and in conformity with the electrical circuit regulations, that are valid, for each individual country. A faulty electrical installation can be the source of injury to persons, animals or things, therefore, the manufacturer declines any responsibility due to injuries caused by a faulty electrical installation.

Connect the main power source to a wall socket that conforms to the regulations for the electrical circuit.

**IMPORTANT: THE MACHINE MUST BE GROUNDED AND THE GROUND WIRE (yellow-green wire) MUST CONFORM WITH THE ESTABLISHED NORMS.** The manufacturer declines any responsibilities if the ground values do not conform to the required values.

**MACHINE VOLTAGE:** **220-230 V - SINGLE PHASE, 50 Hz.**

**ATTENTION!!** IF THE ELECTRIC PLANT THE MACHINE IS CONNECTED WITH DOESN’T HAVE A GOOD GROUNDING CIRCUIT, THE ELECTRONIC BOARDS (CNC) MAY NOT FUNCTION PROPERLY.
THE GUARANTY IS NOT APPLICABLE FOR ANY DAMAGES CAUSED BY A FAULTY INSTALLATION OF THE MACHINE

MAIN PARTS OF THE LENS MILLING MACHINE L.M.F. 500 3D
INSTRUCTIONS FOR THE OPERATOR

6 INDICATIONS RELATIVE TO THE MACHINE

6.1 DESCRIPTION OF THE MACHINE

The machine consists of the following principle parts as shown on the preceding page:

1) THE PROGRAMMING COMPUTER (for particular instructions on software use see page 20 of this manual).
2) MILLING PROTECTION AREA
3) LENS CLAMPING GROUP (See detailed illustration on page 14)
4) MILL HEAD MOTOR
5) LOADING ARM (See detailed illustration on page 14)
6) LENS UNLOADING BIN
7) LENS ELEVATOR (See detailed illustration page 16)
8) INTERCHANGEABLE LENS FEEDER FOR VARIOUS LENS SIZES (See detailed illustration page 16)
9) DOOR IN CLEAR P.V.C. THAT PERMITS VISION OF NUMBER OF LENSES CONTAINED IN FEEDER
10) ACCESS DOOR OF THE SHAVING COLLECTOR BIN
11) SHAVING ASPIRATOR ATTACHMENT HOLE
12) MACHINE BODY
13) CONTROL PANEL (See detailed illustration on page 13)
14) PRESSURE REDUCTION AND FILTER GROUP (See detailed illustration on page 73)
15) COPYING TEMPLATE POSITIONING SUPPORT
16) AUTOMATIC TEMPLATE TRACER PIN
6.2 APPLICATIONS OF THE LENS MILLING MACHINE L.M.F. 500 3D

The MILLING MACHINE L.M.F. 500 3D is designed for milling the lenses (presentation, CR, polycarbonate) of all types of shapes and crown bases from 0 - 9 and intermediate radius fractions. The profile of the lens can be of various forms: beveled at the requested angle or a standard angle (110°), squared, or rounded and with an internal groove for rimless glasses.

The machine is also equipped with a special program that allows it to produce holes and slotted holes of requested diameters for the creation of lenses for the so called “3 piece” glasses.

The programming and centering of the machine is made extremely easy. The tools are mounted in a single mandrill and the positioning of the various holes and slots is obtained by a simple and intuitive programming of the computer.

The L.M.F. 500 3D LENS MILLING MACHINE is completely automatic so that it can reproduce the shapes by way of a direct reading of the master template, by a tracer pin that is situated on the front of the machine, or with a DXF file elaborated with CAD programs. ATTENTION !! The DXF files developed with CAD must have the following prerequisites: 1) the version of the file must not exceed Autocad 12; 2) the shape of the lens can be formed by lines and arcs, or by polylines; 3) in order to be elaborated the color of the selected template must be green; 4) the holes must be represented by red colored points; 5) the slotted holes must be represented by yellow colored holes; 6) up to a maximum of 20 holes + 20 slotted holes can be inserted.

The efficiency of the machine allows for notable work rate, from 400 pieces per hour for lenses with holes and slots to 900/1000 pieces per hour for simple presentation lenses. A special feeding system limits to the minimum the time lost by eliminating the problem of jamming during lens feeding. The precision obtained of the shape, beveling and dimensions is exceptional in that with the computerized system, tolerances can be kept within a hundredth of a millimeter. The surface finish is also of the highest quality.

With a simple set-up, performed with the Work options of the Production Window, the production of all right lenses, all left lenses or alternating right and left lenses can be obtained. In the last case a piece deviater sorts the lenses in separate collector bins. Any other type of production is possible, depending on the particular production requirements.

The changing of the lenses feeder is very rapid. It is suggested to work with two feeders, one inserted on the machine and the other kept filled and ready to substitute, when the first is empty in that way eliminating production time loss.

All of the above characteristics make the L.M.F. 500 3D a unique machine of its type. It is extremely versatile and simple to use, and it offers a very high production quality.

For a secure use of the machine it is suggested that you follow the dispositions described in this manual. The manufacturer L.M. S.n.c. will not assume any responsibility in case of accidents that can be attributed to a faulty use of the machine. Furthermore, if the machine is used for any operation that does not pertain to the milling, drilling and slot milling of lenses the manufacturer declines any responsibility in the case of accidents.
Connect the machine electrical cable to a power box that conforms with existing norms and standards required for each country, making sure that the general switch on the rear of the machine is in the -0- position. Then, with a slight pressure an 8mm dia. tube from the compressed air system into the air filter group, as illustrated on page 73. Before carrying out this operation, make sure that the air filter group coupling [4] illustration p. 73, is in the Chiuso (Closed) position. After having connected air pressure tube, slide the air filter coupling in the Aperto (Open) position as indicated by the arrow, before having checked that there are no foreign objects in the milling area or in the lens feeder, and having closed all doors and protective guards. Then check that the air pressure gauge is set at 6 BAR, eventually adjusting it with the pressure regulator knob [1] illustration p. 73.

After having carried out the preceding operations, always with the doors and lens guards closed, switch on the machine with the general switch situated on the rear of the machine and push the start button [3] illustration p.13. Afterwards, switch on the computer with switch on the side of computer and wait a few seconds for software loading.

Place the lens filled feeder in position and secure it with the knobs [13] illustration p. 14. Place the mill cutter to be used in the motor shaft [5] illustration p. 14 (with the teeth in counterclockwise sense with respect to machine rotation) and block with appropriate nut. If holes and slots are also to be produced insert the specific cutter in motor shaft head and block with ring nut.

Set up of proximity sensor: place a loader with lenses to be cut, load one lens in the machine using the controls via computer, at this points adjust with screws [19] the fastening of the lens according to the thickness till the led of consent [21] lightenes. Now the sensor is set for the type of lens which are in the loader, in case that the suction cup of loading inserts two lenses instead of one, the cutting operation will not be carried out. Important! Carry out this operation any time a new type of lens will be loaded in the machine.

Now, using the software and following carefully the instructions starting from p.20 of this manual, proceed with the loading and set-up of the model to be produced.

Particular explanations regarding the correct use and operation of the machine will be given by a technician of the manufacturer L.M. S.n.c. during the installation.

**MASTER TEMPLATE READING**

Insert the template to be reproduced on the reference pins [2], illustration p.13, located on the front panel of the machine, with the bridge positioned toward the reference point situated to the left of the feeler, then block the template with appropriate knob. Now, from the computer Window Model Loading proceed to the model loading; see instructions on p.20 of this manual.

After having programmed the machine and started production, the machine will automatically stop at finish of pieces loaded or completion of pieces programmed. IMPORTANT ! ! SO AS TO AVOID LENS FEEDING PROBLEMS CAUSED BY MILLING SHAVINGS, CONNECT A ASPIRATOR SYSTEM TO MACHINE AT THE HOLE [11], ILLUSTRATION P. 6.
7.1) MACHINE TOOLING PROCEDURES

The machine tooling is divided in three phases:

1) The insertion of the cutter used for the various grooves or surfaces and the insertion of the bits or cutters used for the holes and slots in the appropriate jaws situated at the head of the motor shaft. This operation must be performed by qualified personnel and the blocking of the tools must always be controlled before continuing with the milling operations.

2) The lens loading in the lens feeder, and the insertion and blockage of the feeder in the appropriate hollow shaft with knobs [13], illustration p. 14.

3) The changing of the lens clamp blocks; this operation must be performed every time that the base and minimum diameter of the lens to be milled is to be changed.

   Extract the piece [17], illustration p.14, unscrewing the screw on the piece and insert one with the has same crown as the lens to be milled.

   The machine comes equipped with three sets of lens clamp blocks of different diameters and two crowning bases marked 6-8. Other blocks can be obtained on request.

7.2 SUGGESTIONS FOR THE USE OF THE LENS MILLING MACHINE L.M.F. 500 3D

So as to obtain an optimal use of the machine, the manufacturer suggests that you employ only qualified personnel for the operation of the machine. The operators are to be held responsible for the machine so that others should not operate it without authorization of the operator, and only after following detailed instructions on how to operate the machine (with the delivery of the machine, the manufacturer will send an authorized technician for the installation of the machine and will also give a complete course on its use and maintenance).

ATTENTION ! ! never in any case use compressed air to clean the machine for its use could introduce dirt on the moving parts or within the machine, thus creating operating problems for the machine. For cleaning use a vacuum cleaner or a brush.

So as to obtain an optimal use of the machine, given the mechanical and electronic particularity of the machine, we strongly suggest that the machine be placed in a clean and dry area, without shavings, dust, humidity etc..

In the eventuality that the machine does not follow its normal work cycle or any other malfunctions should occur, do not tamper with the mechanical parts or with the electrical circuit but follow the instructions described in section 8.1. If the problem persists contact the manufacturer, explain the problem and instructions will be given on how to correct the problem (see the next to last page of this manual).

7.3 RECOMMENDATIONS

Never needlessly leave the machine On:

1) shut down the computer following this procedure: press the F4 END OF WORK key on the Main Window, and WINDOWS will appear on the screen; with the mouse go to start in lower left corner and click the left mouse button; a Window will appear on screen, with the mouse go to Close session and click left mouse
button; at this point another Window will appear, select with left mouse button
the Shut down system and confirm with Enter key.
2) shut down the machine with Emergency Stop button [4], illustration p. 13.
3) put the general switch, located at the back of machine, in the -0- position.

During the use of the machine, pay particular attention to the following:

• do not remove the protection guards.
• do not place hands on moving parts.
• never allow anyone to activate commands or to place hands on moving parts
  while the machine is being operated.
• before performing any maintenance or cleaning make sure that the general wall
  switch is in the Off position.
• do not insert pieces that do not conform with the normal use for which the
  machine was designed.
• never place pieces, tools or rags on or near the machine.
• make sure that the machine sets securely on the floor.

7.4) ORDINARY MAINTENANCE TO BE PERFORMED BY THE OPERATOR

PRIOR TO ANY MAINTENANCE, SHUT DOWN THE COMPUTER AS
EXPLAINED IN sect. 7.3, DISCONNECT THE POWER TO THE MACHINE
WITH THE GENERAL WALL SWITCH AND REMOVE AIR PRESSURE BY
SLIDING THE COUPLING [4] ILLUSTRATION P.73 IN CLOSE POSITION.
The machine does not normally require any particular maintenance given the high
quality of materials used in its construction.
• Make sure that there is always oil in the oil reservoir of the filter group [5]
  illustration p. 73. Eventually, fill the reservoir to 3/4 of its capacity by way of
  the oil filler hole [2] p. 73 after first removing the cap screw. The oil is fed
  automatically into the pneumatic circuit, and the oil flow can be regulated with
  the knob [3] p.73.
• Make sure that there is no water in the condensed water reservoir [7] p.73
  eventually drain the water by pushing on the drain hole [6] with a small screw
  driver.
  ATTENTION: NEVER ALLOW THE CONDENSED WATER RESERVOIR TO
  COMPLETELY FILL UP. IF THIS HAPPENS WATER WOULD BE EMITTED
  INTO THE PNEUMATIC CIRCUIT WHICH WOULD HARM MOVING
  PARTS; PNEUMATIC PISTONS, ELECTROVALVES, ETC.

• Check that the milling area does not fill up with shavings. Eventually clean with
  a vacuum cleaner or a brush.

Replace all protective parts and covers that may have been removed for
maintenance, before switching on the general wall switch and restoring air
pressure.
8 INSTRUCTIONS FOR EXTRAORDINARY MAINTENANCE AND PROCUREMENT OF REPLACEMENT PARTS

8.1 INSTRUCTIONS FOR TROUBLE SHOOTING

In case of machine malfunction check the following:
• if the general wall switch is On and power reaches the machine
• if the emergency push-button is deactivated
• if the START button [3] illustration p.13 is pushed in
• if the control panel switches are in the proper position
• if the compressed air is connected and the open/close coupler [4] illustration p.73 is in the open position
• if the computer is switched On, switch at side of computer
• if the message Proceed with Scan Disk appears on screen during computer Start, confirm with Enter, and wait for the end of this operation and entering of the L.M.F. 500 3D program
• In case of malfunction which could depend on the Software, carry out the procedure (Verification Software through modem) described at page [70 Bis]

If the malfunction persists after having carried out the above checks, contact the manufacturer (refer to the next to last page of this manual).

8.2 PROTECTIONS

FIXED: • work area cover guard [3] illustration p.6, automatically blocked when the machine is in the production cycle
• mill cutter protection [2] illustration p. 14, useful for the deviation of shavings in the aspirator area
• door in clear P.V.C. for feeder shaft [9] illustration p. 6
• access door to shaving collection area [10] illustration p. 6

• stop at end of production cycle for pieces loaded finished or having completed pieces programmed
• video alarms for erroneous data setup or operations

8.3 TO BE CHECKED EVERY 7/15 DAYS:
• check the oil level in the reservoir [5] of the filter group, illustration p.73
• check and eventually drain the condensed water in the reservoir [7] illust. p.73
• check the compressed air pressure at the pressure gauge [8] illustration p.73, and eventually regulate to 6 BAR
• check the condition of the rubber on the blocks of the lens clamp
• check the sharpness of the mill cutters and drill bits

8.4) ANNUAL CHECKS:

• check the condition of the suction cups and the mechanical movements

IMPORTANT !! after having carried out all checks, replace all parts removed or moved (guards, switches etc.) before restarting the machine (OPERATION TO BE ENTRUSTED TO QUALIFIED PERSONNEL).
1) AUTOMATIC MASTER TEMPLATE TRACER PIN
2) TEMPLATE SUPPORT
3) MACHINE START BUTTON (Before pushing this button, remember to switch ON the general switch located in rear of machine, and the computer with switch at side of same)
4) EMERGENCY STOP BUTTON (Attention !!! Press this button to shut down the machine only after having carried out the computer shut down operations, following this procedure: 1) Press F4 WORK END key on Main Window, 2) With mouse go to Start in lower left corner of WINDOW and click left mouse button, 3) With mouse go to Close session and click left mouse button, 4) From new Window select Shutdown system and press OK. The computer will shutdown automatically.
5) AIR PRESSURE REGULATOR ON LENS CLAMP GROUP
6) LENS CLAMP GROUP PRESSURE GAUGE
7) AIR JET REGULATOR FOR LENS CLEANING
   AIR JET REGULATOR FOR DRILL BIT CLEANING
LENS MILLING MACHINE L.M.F. 500 3D

PARTS LIST OF THE LENS MILLING AREA

1) LENS CLAMP REAR PART
2) MILLING AREA PROTECTION GUARD
3) LENS CLAMP FRONT PART
4) PROTECTION GUARD SECURING KNOB
5) MOTOR SHAFT WITH CUTTER BLOCKING NUT AND BIT AND CUTTER LOCKING RING NUT
6) ROTATING CYLINDER OF LOADING ARM
7) LOADING ARM LENS PICK-UP AND POSITIONING CYLINDER
8) MILL MOTOR
9) CONTROL PORT HOLE
10) PIVOTING LOADING ARM
11) LEVERS FOR LOADING CONSENT SENSOR CONTACT (indicating sensor of lens presence in feeder)
12) LENS CLEANING AIR JET IN LOADING AREA
13) INTERCHANGEABLE FEEDER SECURING KNOB (to unscrew to remove feeder)
14) LENS SUCTION CUP
15) PROTECTION GUARD AUTOMATIC BLOCKING DURING WORK CYCLE
16) COUNTERBALANCED LOADING ARM TRAVEL ADJUSTING SET SCREW
17) REAR INTERCHANGEABLE LENS CLAMP
18) AIR ACCESS SCREEN FOR ASPIRATOR
19) ADJUSTING SCREW LENS FASTENING
20) PROXIMITY SENSOR
21) CONSENT LED SENSOR
1) POSITION OF THE LENS IN THE FEEDER
2) MOBILE SUPPORT FOR LENS POSITIONING FOR COUNTERBALANCED ARM (use the rapid release 5 and lower the mobile support to end of run to remove it, then reload the feeder; after having repositioned the feeder, bring the mobile support in contact with the lenses and reposition the rapid release)
3) LENS CONTAINMENT SHAFTS. EVERY LENS TYPE MUST HAVE ITS OWN INTERCHANGEABLE LENS FEEDER
4) UPPER LENS FEEDER PLATE WITH POSITIONING GUIDE
5) RAPID RELEASE TO RETURN THE MOBILE SUPPORT TO START POSITION
6) LOWER LENS FEEDER PLATE
7) LENS LIFTING MOTOR AT AUTOMATIC INCREMENTS
SECURITY CLUTCH: interrupts the rotation of the lens loading screw in case of lenses having difficulty to run in the loader.
1. CARRIAGE RELEASE (For lens loading)
2. LENS POSITIONNING SUPPORT WITH PLASTIC SHAPE (Assemble adequate shapes for the type of lenses to be cut)
3. LENS POSITION
5. FIXED GROUP OF THE LOADER TO APPLY TO THE MACHINE
6. SLIDING COLUMNS (Keep clean and lubrificated)
7. FIXING SCREWS OF PLASTIC SHAPES ACCORDING TO THE TYPE OF LENS TO BE LOADED
WITH WASHER (RING 1) AND SCREW M4.
INDICATED ON THE DRAWING AND LOCK THEM FINALLY.
INSERT ALL THE COMPONENTS IN SEQUENCE AS
ASSEMBLY.
COMPONENTS.
REPLACE SCREW M4 AND PULL OUT THE SINGLE.
REMOVE SCREW M4 AND WASHER (RING 1).
DISASSEMBLY.

LENSES-DRAG GROUP

LENS MILLING MACHINE LMF 500 3D
LENSES-DRAG GROUP
ASSEMBLY/DISMANTLE INSTRUCTIONS
LENS MILLING MACHINE L.M.F. 500 3D

DRAWING OF THE STANDARD MILL CUTTER AND STANDARD PLAQUES

NOTE: THE MACHINE COMES EQUIPPED WITH ONE CUTTER OF YOUR CHOICE.
FOR SPECIAL CUTTERS CONTACT THE MANUFACTURER L.M. S.n.c.
LENS CUTTING MACHINE L.M.F. 500 3D
DRAWING OF MILL CUTTER FOR PLASTICS WITH TIP FOR HOLES
TOTAL LENGTH 40.0 mm. Max. CLOCKWISE CUTTING DIRECTION
NOTE: FOR SPECIAL CUTTERS CONTACT THE MANUFACTURER L.M. S.n.c.

SCALE 2:1
DETAILED ILLUSTRATION OF LENS CLAMP GROUP
(REFER TO THIS DRAWING TO ORDER THE RELATIVE SPARE PARTS)

*STANDARD SIZES OF INTERCHANGEABLE LENS CLAMPS (C)
Ø30mm. Base 6/Base 8
Ø20mm. Base 6/Base 8
OTHER Bases AND OTHER Diameters ON REQUEST

A) LENS ROTATION SHAFT
B) LOCK SCREW
C) INTERCHANGEABLE LENS CLAMP
D) EJECTOR Ø6mm.
E) DRAG-RUBBER (INTERCHANGEABLE LENS CLAMP)
F) DRAG-RUBBER (FIXED LENS CLAMP)
H) FIXED LENS CLAMP
Procedure for replacing the lead nut of the loader

**Procedure for replacing the lead nut of the loader (C)**
- Take off the screws (A) and the plate (B)
- Take off the screws (F) and the plates (E) taking care of not losing the springs (D)
- Slip off upwards the lead nut (C) for the replacement
- Reassemble correctly the whole