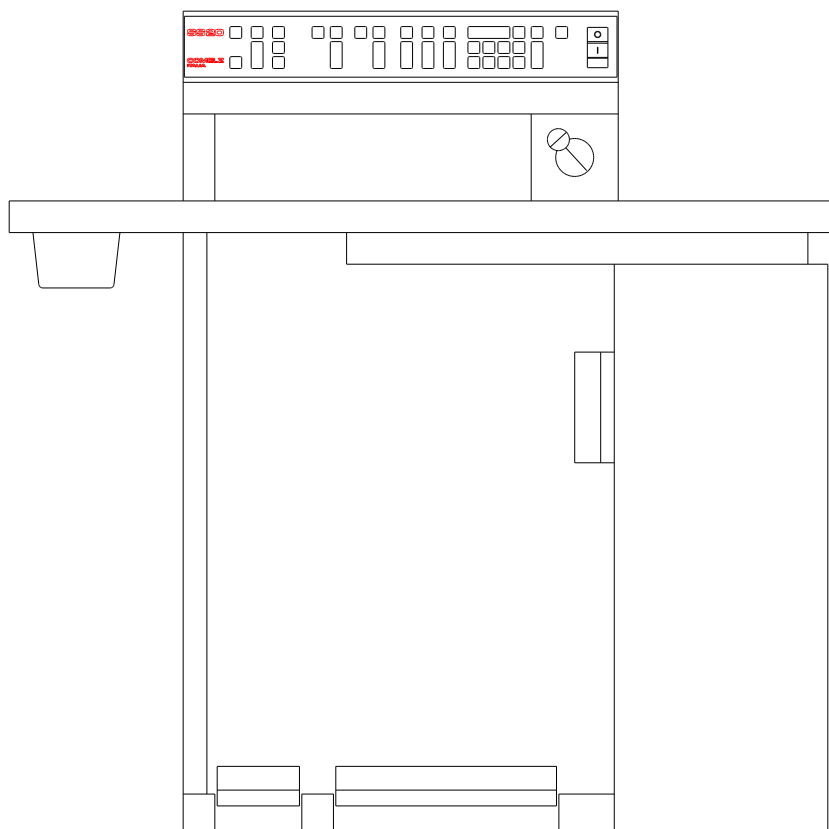


COMPUTERIZED SKIVING MACHINE

SS20

INSTRUCTION MANUAL



Model

SS20

Serial No.

Manufactured by

COMELZ spa

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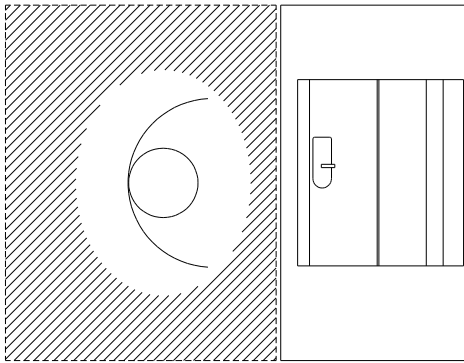
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1. DESCRIPTION OF THE MACHINE

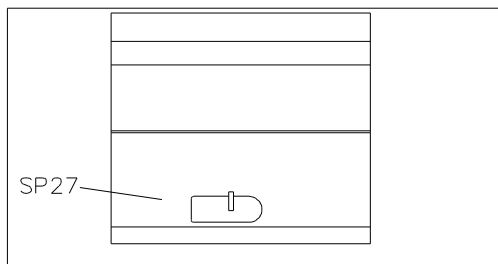


The SS20 Computerized Skiving Machine, manufactured by COMELZ and outlined in picture 1, is used to skive the edge of leather components and of other materials of similar nature.

The operative inserts the component piece under a guide; a roller feeds it against a bell-shaped knife that cuts the exceeding material.

Picture 1

2. PROTECTIONS USED FOR SAFETY PURPOSES, picture 2



A) Handling

The low weight of the machine does not cause handling problems.

Correct procedures to handle the machine are described in chapter 5.

B) Use

Covers fixed with screws to the frame protect from electrical and mechanical hazards.

- The SP27 cover protects from the knife and other moving mechanical parts. The machine turns off when this cover is opened.

Picture 2

It is not enough to press the safety micro-switch to turn on the machine again.

- A brake fitted to the knife motor stops the rotation of the knife when the SP27 lid is opened.

Warning! Never operate the machine without its covers in place.

IMPORTANT - For safety reasons remove the knife cutting edge (use a grindstone) before any maintenance service. The knife, even when idle, has a very high cutting potential.

C) Maintenance

The machine does not require specific preventive maintenance service.

Warning! Maintenance servicing, for its very own nature, can be necessary when the machine does not work correctly. For this reason, as a rule during maintenance operations, it is extremely hazardous to rely on the correct functioning of safety devices, even when they appear to be perfectly working. See chapter 10.1 .

3. TECHNICAL SPECIFICATION

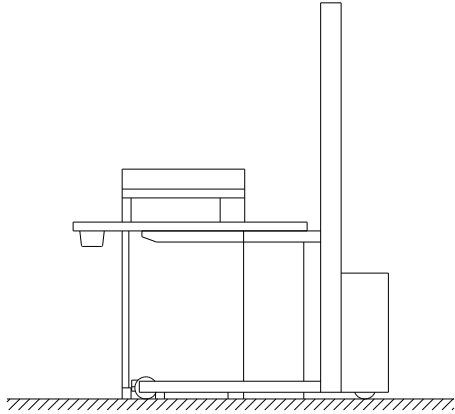
- Skive width**
adjustable from 0 through 20 mm
- Skiving speed**
adjustable from 0 through 750 mm/s
- Knife rotating speed**
2700 rpm
- Overall dimensions**

height	1030 mm
width	1050 mm
depth	550 mm
- Mass**
net weight 145 kg

4. CONTEMPLATED AND NOT CONTEMPLATED USE OF THE MACHINE

The SS20 machine was designed to skive the edge of leather pieces and plastic materials with similar characteristics. It is commonly used to manufacture shoes, leatherware and leather garments. Unconventional use can procure serious injuries to the operative and damage the machine.

5. HANDLING AND TRANSPORTATION



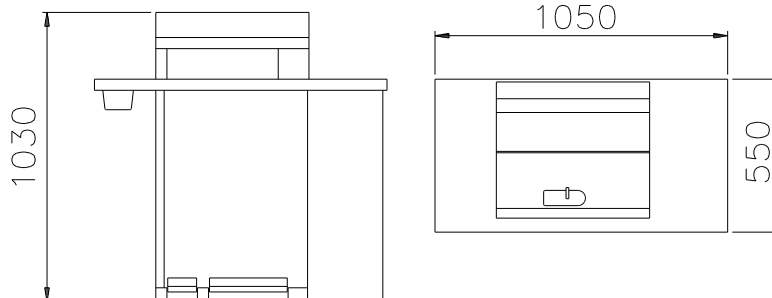
The lifting and transportation of the machine must be performed by skilled personnel with adequate equipment to deal with its dimensions and weight.

The machine must be secured as indicated in picture 3.

Picture 3

6. INSTALLATION OF THE MACHINE

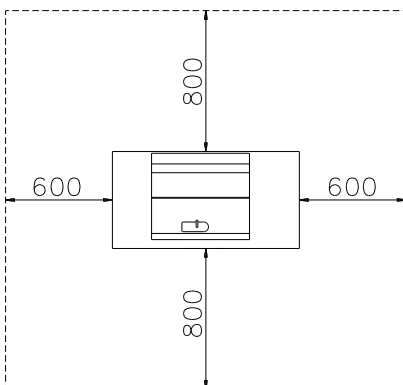
6.1 OVERALL DIMENSIONS



The overall dimensions of the skiving machine are shown in picture 4.

Picture 4

6.2 REQUIRED CLEARANCE



Position the machine so as to leave enough clearance to allow servicing, as shown in picture 5.

Picture 5

6.3 ENVIRONMENT

- Do not place the machine in rooms with explosion or fire hazard.
- Shelter the machine from bad weather.

7. PREPARATION OF THE MACHINE FOR THE INSTALLATION

7.1 CLEANING AND INSPECTION

- Make sure that the various components of the machine were not damaged during transportation and handling.
- Accurately clean the machine from dust and smearing substances, if any.
- Make sure the machine lays flat on the floor. Level the machine through the SN8 foot, if necessary.

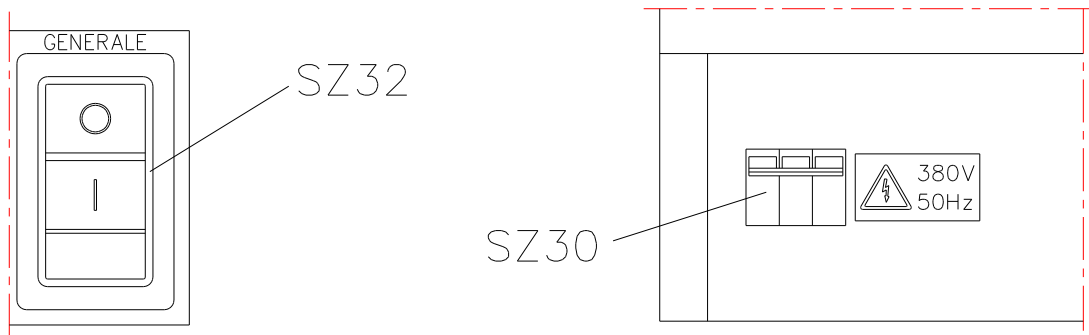
7.2 ELECTRICAL CONNECTION

- Make sure the voltage and frequency values of the machine, indicated on a label near the SZ30 switch, match those of the mains and then connect the machine through its cable.

Important! The voltage of the machine is fixed and cannot be changed.

- Make sure the knife rotates in the correct direction; its upper part must move away from the operator.
- maximum electrical consumption 1200 W
- medium electrical consumption 350 W
- allowed tension +/- 10 of the rated voltage

8. INSTALLATION OF THE MACHINE CONTROL MEMBERS AND THEIR FUNCTIONS



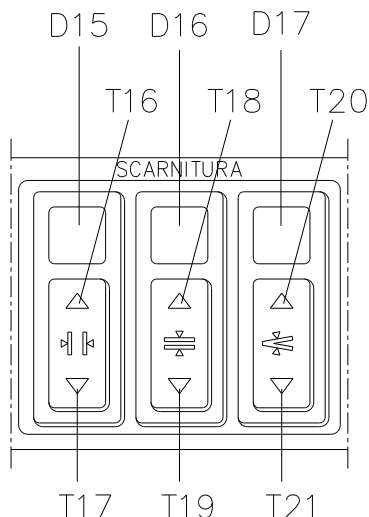
Picture 6

8.1 SZ30 -MAIN SWITCH, picture 6

It is located on the back of the machine's body.

8.2 SZ32 - SWITCH, picture 6

8.3 TOUCH-PAD - SKARF, picture 7



8.3.1 Adjustment of the skive width

T16 - To increase the width of the skarf.

T17 - To reduce the width of the skarf.

D15 - It shows the selected width.

The symbol - - is shown when the width is increased beyond number 80; the ST16 work gauge moves under the work surface and the component must be guided against the fixed gauge under the presser foot.

8.3.2 Adjustment of the skive thickness

T18 - To increase the thickness of the skarf.

T19 - To reduce the thickness of the skarf.

D16 - It shows the selected thickness.

8.3.3 Adjustment of the skive inclination

T20 - To increase the inclination.

T21 - To reduce the inclination.

D17 - It shows the selected inclination.

Picture 7

8.4 TOUCH-PAD - FEED

8.4.1 Adjustment of the feed speed

T14 - To increase the speed.

T15 - To reduce the speed.

D14 - It shows the selected speed.

T13 - To shift from **Pedal** to **Continuous** mode

D12 and D13 - They show the selected mode.

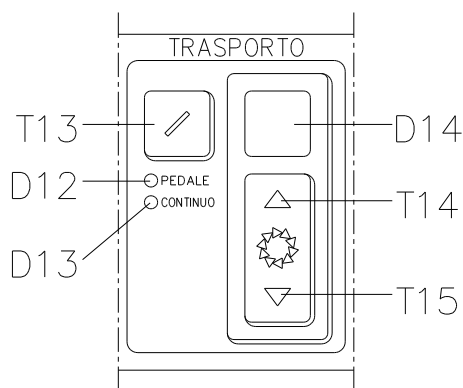
8.4.2 Selector Pedal - Continuous

Pedal

The SR45 feed roller is normally idle. The operative adjusts its speed by pressing the SN26 pedal.

Continuous

The SR45 feed roller rotates continuously at the pre-set speed.



Picture 8

8.5 TOUCH-PAD - MEMORY, picture 9

Memorizing skiving programs.

T24 - It is used to select the skiving program, numbered from 0 through 99.

D19 - It shows the selected program.

T22 - They are used to select skive styles, indicated by a letter (**A C E F H L P U**).

D18 - It shows the selection.

T23 - It cancels the sequence, to accept a new selection.

The machine stores in memory up to **800** types of skarf that are grouped into **100** programs of **8** styles each. Therefore one number (from 0 through 99) and any one of the 8 letters identifies each skarf style.

The machine retains in memory the following data for each skarf style:

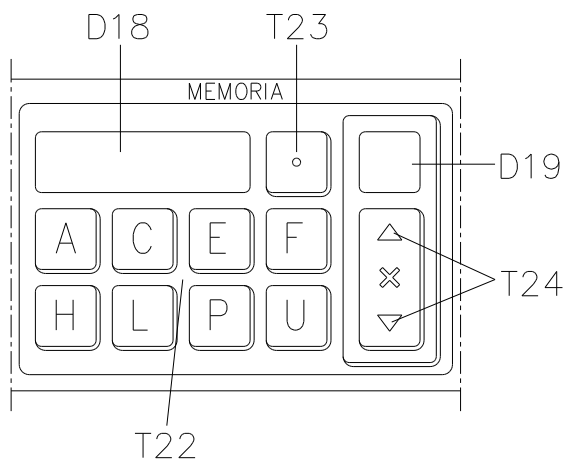
Width

Thickness

Inclination

Feed speed

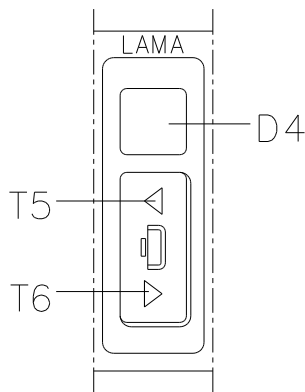
Feed mode (pedal or continuous)



Picture 9

- Press the SN27 pedal to step from one skarf style to the next.

8.6 TOUCH-PAD - KNIFE



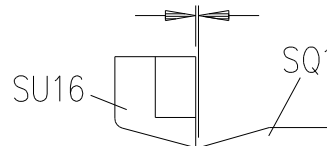
Adjustment of the gap between the SQ1 knife and the SU16 presser foot.

T5 - It moves the knife toward the SU16 presser foot.

T6 - It moves the knife away from the SU16 presser foot.

D4 - It shows the selected adjustment.

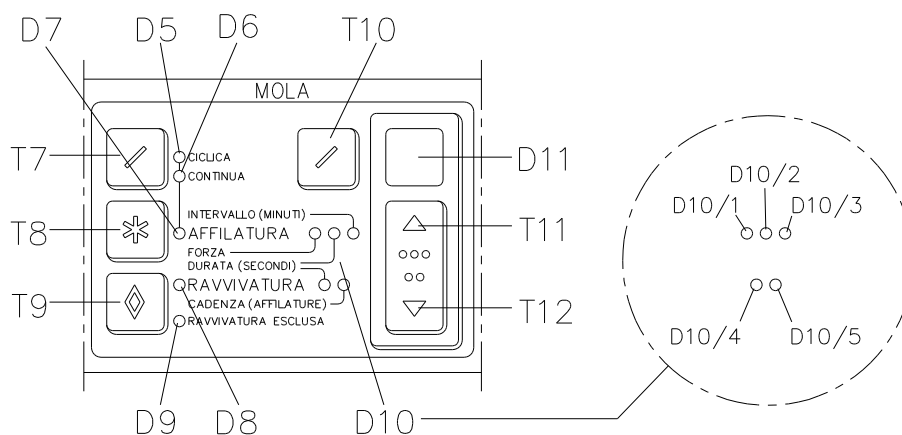
The minimum value is 00 (zero), the closest to the presser foot. The maximum value is 50, that resembles a gap of approximately 1 mm.



Picture 10

Picture 11

8.7 TOUCH-PAD - GRINDSTONE, picture 12



Picture 12

T7 - It selects the sharpening mode between PROGRAMMED and CONTINUOUS

- **Programmed**

Knife sharpening is automatically executed according to the pre-set parameters.

- **Continuous**

Press the T8 touch button to start the sharpening.

Press the T8 touch button again to stop it.

T8 - It starts and stops the sharpening.

D7 - When the lamp is on, the sharpening is active.

T9 - It starts and stops the grindstone dressing.

Grindstone dressing is automatically executed according to the pre-set parameters.

D8 - When the lamp is on, the dressing is on.

D9 - When the lamp is on, the dressing is neither executed automatically nor it can be started by pressing the T9 touch button.

T10 - Press it repeatedly to select programmable parameters.

D10 - They show which parameters are selected.

T11 - To increase the value of the selected parameter.

T12 - To reduce the value of the selected parameter.

D11 - It shows the value of the setting.

8.8 TOUCH-PAD - SHARPENING AND DRESSING PROGRAMS, picture 12

Use the T10 touchbutton to select the following options:

D10/1 - Sharpening pressure.

Minimum value 5 Maximum value 80 Recommended value 10 - 20

D10/2 - Programmed sharpening time on.

Minimum value 1 s Maximum value 99 s Recommended value 10 s

D10/3 - Time interval between two sharpening cycles.

Minimum value 1 min Maximum value 99 min Recommended value 2 - 10 min

D10/4 - Programmed dressing time on.

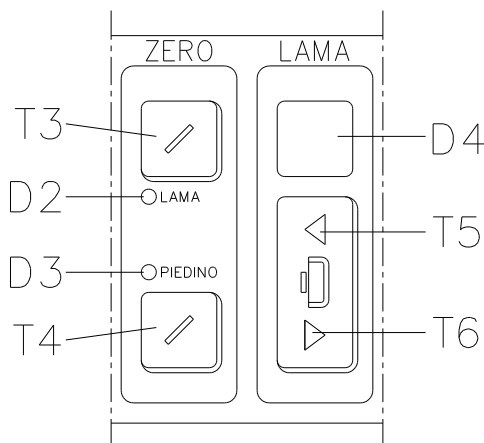
Minimum value 00 s Maximum value 20 s Recommended value 1 - 2 s
If the 00 value is selected, the D9 lamp DRESSING OFF is lighted.

D10/5 - Number of sharpening operations executed between one dressing cycle and the next.

Minimum value 00.
Maximum value 20. Beyond this number the display shows two dashes and the dressing starts only when the T9 touch button is pressed.
Recommended value 10 - 15.

Important! Dressing **MUST BE OFF** when using **BORAZON** grindstones. They only need to be cleaned by hand occasionally and are damaged by the SX25 diamond dresser.

8.9 TOUCH-PAD - ZERO POSITION OF KNIFE AND PRESSER FOOT, picture 13



Picture 13

8.9.1 Setting the zero position of the SQ1 knife

To set the knife zero position means to define the 00 (zero) point where the knife edge skims the SU16 presser foot, picture 11.

- Press the T3 touchbutton.
Lamp D2 is on.

The D4 display shows the symbol - -.

- Press the T5 or T6 touchbutton to move the knife very near to the presser foot.
The knife edge must never touch the presser foot.
- Press the T3 touchbutton again.
The display shows **00** (zero).
- Press the T3 touchbutton again.
The D2 lamp goes off.

The D4 display shows the selected operating distance and at the same time the knife moves to this position.

WARNING! The machine only works when the D2 lamp is off.

8.9.2 Setting the zero position of the SU16 presser foot

To set the presser foot zero position means to adjust the machine so that when both skive thickness and inclination are set to **00** (zero) the presser foot is parallel to the feed roller; it must just skim it.

- Press the T4 touch button.
Lamp D3 is on.
Two dashes (- -) are shown on the D16 and D17 displays (thickness and inclination).
- Use touch button T18 and T19 (thickness) and touch button T20 and T21 (inclination) to adjust the presser foot parallel to the feed roller and skimming it.

WARNING! While adjusting this clearance be careful not to move the presser foot against the feed roller, to prevent damaging both.

- Press the T4 touchbutton twice.
The D3 lamp goes off.

WARNING! The machine only works when the D3 lamp is off.

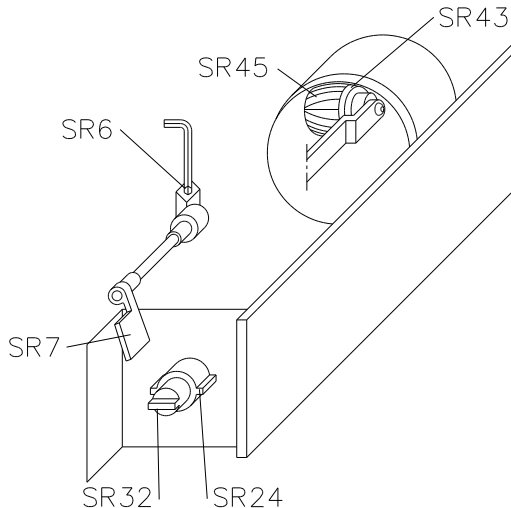
8.10 PRESSER FOOT LIFTING

The SN12 toggle switch (located under the table on the right, at knee-height) controls the full lifting of the presser foot.

Press the switch once to lift the presser foot and a second time to move it back to working position.

Three lines show on the D16 picture 7 display while the presser foot is released.

8.11 ADJUSTMENT OF THE FEED ROLLER, picture 14



Picture 14

SR32 - To adjust the vertical position of the SR45 feed roller.

SR6 - To adjust the inclination of the SR45 feed roller.

Adjust the SR45 feed roller so that it is parallel to the knife and the clearance is approximately 0,2 mm.

SR24 - To adjust the working pressure of the SR45 feed roller (turn clockwise to reduce the pressure and vice-versa)

SR7 - This lever is used to grind the inside of the knife.

9. USE OF THE MACHINE

The machine must be operated by personnel trained for its use.

Turn the machine on by moving the lever on the SZ30 overload cutout upward; then press the green I button on the SZ32 main switch.

After a short self-test the machine is ready to operate.

- Store a new skive style in memory or recall an existing one (see chapter 8.3 TOUCH-PAD - SKARF and 8.5 TOUCH-PAD - MEMORY).
- Insert the component under the SU16 presser foot.
Press the SN26 pedal to start the feed roller; if the continuous feed mode was selected the feeding is immediate. (see chapter 8.4 TOUCH-PAD - FEED)
- Guide the component piece so that its edge is constantly in contact with the ST16 work gauge.
- When a sequence is being used (more than one type of skive on the same component) press the SN27 pedal to step to the next skarf style.
- Now and then, while the knife is being sharpened, grind the inside of the knife by pressing the SR7 lever until the first sparks are produced by the contact of the SR43 ring against the knife inside edge.

Warning! The sparks generated by the grinding can ignite the scraps when hairy materials are being processed. It is therefore important to empty the SN5 scrap basket at the end of each working session.

IMPORTANT! Always turn the unit off by means of the SZ30 overload cutout during idle periods lasting over one hour.

10. MAINTENANCE OF THE MACHINE

Warning! Always turn off the machine when carrying out maintenance.

10.1 REPLACEMENT OF THE KNIFE

This operation must be carried out by qualified personnel.

IMPORTANT - For safety reasons wear heavy gloves and remove the cutting edge of the old knife (use a grindstone) before replacing it. The knife, even when idle, has a very high cutting potential.

To replace the knife do the following:

- Move the knife away from the presser foot, picture 10, by pressing the T6 touchbutton.
- Turn off the machine and open the SP27 lid, picture 2.
- Move the knife all the way to the right by turning clockwise the SY23 knob, located on the right side of the machine's body, till it stops.
- Tilt the knife electro-spindle.
- Remove the SQ29 scrap deflector.

- Remove the four SQ2 screws that lock the knife.
- Accurately clean the spindle and the new knife before fitting it.
- Fit the SQ25 spacer in case it was dismantled.
- Adjust the knife zero position (see chapters ZERO POSITION OF KNIFE AND PRESSER FOOT) and execute the sharpening.

It is necessary to re-adjust the knife zero position because of the small size difference of knives that, though small, cause malfunctions.

10.2 GRINDSTONE REPLACEMENT

To replace the grindstone do the following:

- Unscrew the two SP23 knobs and remove the SP28 cover.
- Insert the hexagonal wrench to lock the grindstone spindle.
- Unscrew the SX24 nut (the thread is standard, right-handed).
- Turn clockwise the SY23 knob, located on the front of the machine's body, until the clearance is sufficient to fit the new grindstone.

10.3 SCRAP COLLECTOR

To preserve the efficiency of the scrap collector unit it is necessary to empty the SN5 scrap basket before it is completely full.

10.4 CLEANING

Clean the SN44 filter at least once a day. Slide it out and blow it with compressed air if possible.

When the container is removed, also eliminate the scraps that fall underneath. They would otherwise be sucked into the SN46 fan, thus causing vibrations and a gradual reduction of the efficiency of the whole collecting unit.

- Open the SP27 lid and clean the machine daily with compressed air if possible.
- Clean the SN46 fan unit once a week. Remove the SN5 container to reach the unit.

10.5 LUBRICATION

Lubricate the machine once a week.

10.6 TESTING SAFETY DEVICES

Check the efficiency of safety devices once a week.

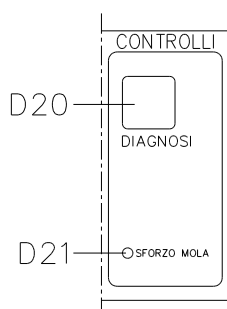
- While the machine is running open the SP27 lid, picture 2, very cautiously: the machine must stop.

11. PRODUCT FLAWS AND THEIR CAUSE

Follow the instructions given in the previous pages to adjust the machine.

- Indented skive.
 - Knife unevenly sharpened.
 - Knife inside edge unevenly trimmed.
- Poor component feed.
 - Feed roller position too low.
 - Inadequate clearance between knife and presser foot.
- Skive insufficiently thin.
 - Inaccurate zero position of the presser foot.
 - Too large clearance between knife and presser foot.

12. ERROR CODES



D20 - The following numbers appear on the display in case of malfunctioning of the machine.

D21 - It lights up when the sharpening pressure is too high.

Picture 15

- 03** - Missing power supply (12V) to the KK10 PC board.
Turn off the machine and disconnect: the connector of the KM12 pedal, the connector of the KM10 toggle switch and the connector of the SZ22 PC boards cooling fan.
Turn on the machine again; if the error code persists replace the KK10 PC board.
In case the error code does not show re-connect the various components one by one, turning the machine on each time, until the code reappears; replace then the part that caused the malfunctioning.
- 06** - The KK10 PC board is faulty.
- 11** - The control of the SV1 stepper motor for THICKNESS adjustment on the KK30 PC board is faulty.
- 12** - Interruption in the connection of the SV1 THICKNESS motor.
- 13** - Short circuit in the connection of the SV1 THICKNESS motor.
- 14** - The control of the SV1 stepper motor for WIDTH adjustment on the KK30 PC board is faulty.
- 15** - Interruption in the connection of the SV1 WIDTH motor.
- 16** - Short circuit in the connection of the SV1 WIDTH motor.
- 17** - The control of the SV1 stepper motor for ANGLE adjustment on the KK30 PC board is faulty.
- 18** - Interruption in the connection of the SV1 ANGLE motor.
- 19** - Short circuit in the connection of the SV1 ANGLE motor.
- 40** - The control of the SR1 FEED motor on the KK21 PC board is faulty.
- 41** - Interruption in the connection of the speedometer dynamo of the SR1 FEED motor.
- 42** - Interruption in the connection of the SR1 FEED motor.
- 43** - SR1 FEED motor jammed.
- 50** - The control of the SY1 servo-motor on the KK21 PC board is faulty.
- 51** - Short circuit in the connection of the SY1 servo-motor.
- 52** - Interruption in the connection of the SY1 servo-motor.
- 53** - The SP17 position sensor of the knife is faulty.
- 54** - The knife actuator is jammed.
Worn knife.
- 60** - The control of the SY1 servo-motor on the KK21 PC board is faulty.
- 61** - Short circuit in the connection of the SY1 servo-motor.
- 62** - Interruption in the connection of the SY1 servo-motor.
- 63** - The grindstone actuator is bound.
Worn grindstone.
- 64** - Excessive idling power consumption of the SX110 grindstone motor.
- 65** - Interruption in the connection of the SX110 grindstone motor.
- 89** - Interruption in the connection of the SZ22 cooling fan.
- 99** - SZ22 cooling fan jammed or short circuited.

13. WEAR AND SPARE PARTS

- SQ1 knife
- SR43 trimming ring
- SR45 feed roller
- SU16 presser foot
- SZ22 grindstone
- SX25 grindstone dresser

14. DISMANTLING THE SS20 SKIVING MACHINE

When it is necessary to dispose of the machine, a few essential rules must be followed to protect the environment.

- All components made of plastic or other non-metallic materials must be disassembled and disposed of separately.
- Electrical components (switches, transformers, motors and the like) must be re-used, if possible.
- Metallic parts of the machine must be disassembled and grouped according to the type of material. They must then be demolished and melted separately.

15. SOUND LEVEL OF THE SS20 SKIVING MACHINE

Under standard working conditions the sound level is:

Leq	at operative place under working conditions	<70 dB(A)
Lpc	at operative place under working conditions	<130 dB(C)
Leq	at operative place under idle conditions	<70 dB(A)
Lpc	at operative place under idle conditions	<130 dB(C)

16. WIRING DIAGRAM

