INSTRUCTIONS BOOK
ELITE 70

APPLIES TO ELITE 70 BASIC Version
Version 04/20

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DECLARATION OF TYPE A CONFORMITY

TYPE/MODEL: ELITE 70 (Universal tool grinding machine)
No SERIES: 601
YEAR OF CONSTRUCTION: 2020

Elite Sharpening Machines, S.L.U. declares under its sole responsibility that the machine in question complies with the provisions of the Machinery Directive 89/392 CEE and subsequently modified by Directives 91/368 CEE, 93/44/CEE and 93/68 CEE.

Sant Esteve Sesrovires, Spain - 03/09/2020

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Direct grinding wheel motor	Made of stainless steel with variable speed from 3000 to 18000 RPM and 2 HP
Grinding wheel head	For grinding wheel with ø32 mm shaft. And up to exterior ø 200 mm. And with ER20 collet holder for the clamping of abrasive pins
Travel:	
X axis (table)	Useful travel 470 mm.
Y-axis	Useful travel 210 mm.
Z-axis	Useful travel 470 mm.
Rotation of the grinding wheel spindle in the horizontal plane	180º
Rotation of the grinding wheel spindle in the vertical plane	360º
Movement of the Y and Z axes	By means of ball screw
Working table movement	Motorised as standard, with adjustable end stop
Shaft guides	In tempered and ground steel
870x160 mm working table useful for working	With triple "T" guide for holding work accessories
Table base	1500 mm. Made in one piece.
Maximum weight on the table	200 Kg.
Prepared for CNC automation	Up to 4 axes (X, Y, Z, A)
Voltage	Available in 400 V. 50 HZ. 3 Ph. / 230 V. 50/60 Hz. 3 Ph. (see technical plate)
Electricity consumption	Maximum consumption: 4 KW

FIRST STEPS

Congratulations on the purchase of the ELITE model 70 basic version grinding machine.

Please read this guide before you begin.

The Elite 70 is a universal cutting tool sharpener with simple configuration and easy use to achieve optimum quality in the jobs for which it has been designed. Its design and intuitive manual configuration allow you to optimise sharpening work for tools in the wood sector and small tools in the metal sector.

This manual introduces you to the main functions of the sharpening machine in order to avoid risks to your health or which could cause the machine to break down or wear out prematurely.

In case of any doubt, please contact us directly or one of our authorized distributors. You can find an updated list of our distributors on our website: www.elite.es

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USE AND MAINTENANCE OF THE INSTRUCTION MANUAL

This instruction manual must be read and understood by all personnel coming into contact with the machine.

This manual is intended for

Indicate the correct way to use the machine according to the type of work to be done.
Provide the necessary instructions for the transport, adjustment and maintenance of the machine.
Facilitate the ordering of spare parts and information on risks.

Limits of use of the manual

The machine is intended for professional use and therefore the experience of the operator is required and of vital importance.

Importance and conservation of the manual

This manual is to be considered as part of the machine and should therefore be attached to it until the end of its use.

Additional information and clarifications

The user, owner or maintainer may contact the manufacturer for any additional information on the use of the machine and any methods of maintenance and repair.

Expiry of liability

The manufacturer is considered to be exempt from any liability in the event of
Improper use of the machine.
Use of the machine by untrained persons.
Serious shortcomings in planned maintenance.
Unauthorised interventions or modifications.
Use of non-original spare parts.

SAFETY REGULATIONS

Carefully observe and apply the following safety regulations, failure to do so may result in personal injury or damage to the machine itself.

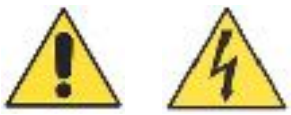
The installation and maintenance of the machine described in this manual should only be carried out by operators who are familiar with the operation of the machine and have sufficient technical knowledge.

The ELITE 70 sharpening machines have been designed for the sharpening of , excluding any other type of operation.

Declaration of Conformity
ELITE 70 (basic version without CNC)

According to the standards 89/392/EEC (machine standards) and following amendments.
The "CE" mark on the equipment indicates its conformity to other standards, and exactly:

- STANDARD 73/23 CEE LOW VOLTAGE AND FOLLOWING AMENDMENTS
- STANDARD 89/336/EEC ELECTROMAGNETIC COMPATIBILITY AND FOLLOWING AMENDMENTS



DANGER: HIGH TENSION

These warnings do not include all the possible risks that improper use of the machine could entail. The operator must therefore proceed with caution and observe the rules.

TRANSPORT AND LOCATION

The Elite model 70 cutter grinding machine leaves the workshops properly prepared so that during its transport it does not suffer any deterioration in its mechanisms. For this reason and to put it in working condition it requires some operations that are detailed below:

The machine has to be moved to its location without removing any of the packaging that has been provided for its transport.
Once it has been deposited in the room, the packaging will be carefully removed.
When assigning the place where the machine is to be placed, it must be ensured that the floor is compact and free from vibrations.

As shown in Fig. 2, the site must be prepared with concrete mortar to the dimensions indicated. Before pouring the cement mortar around the anchorage rods, set the machine on its location tie with the rods placed in their corresponding holes, allowing the poured cement mortar to set in this position.

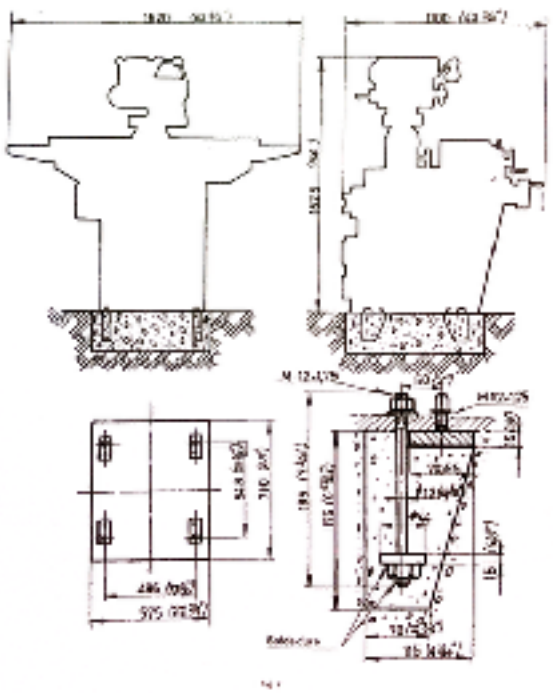
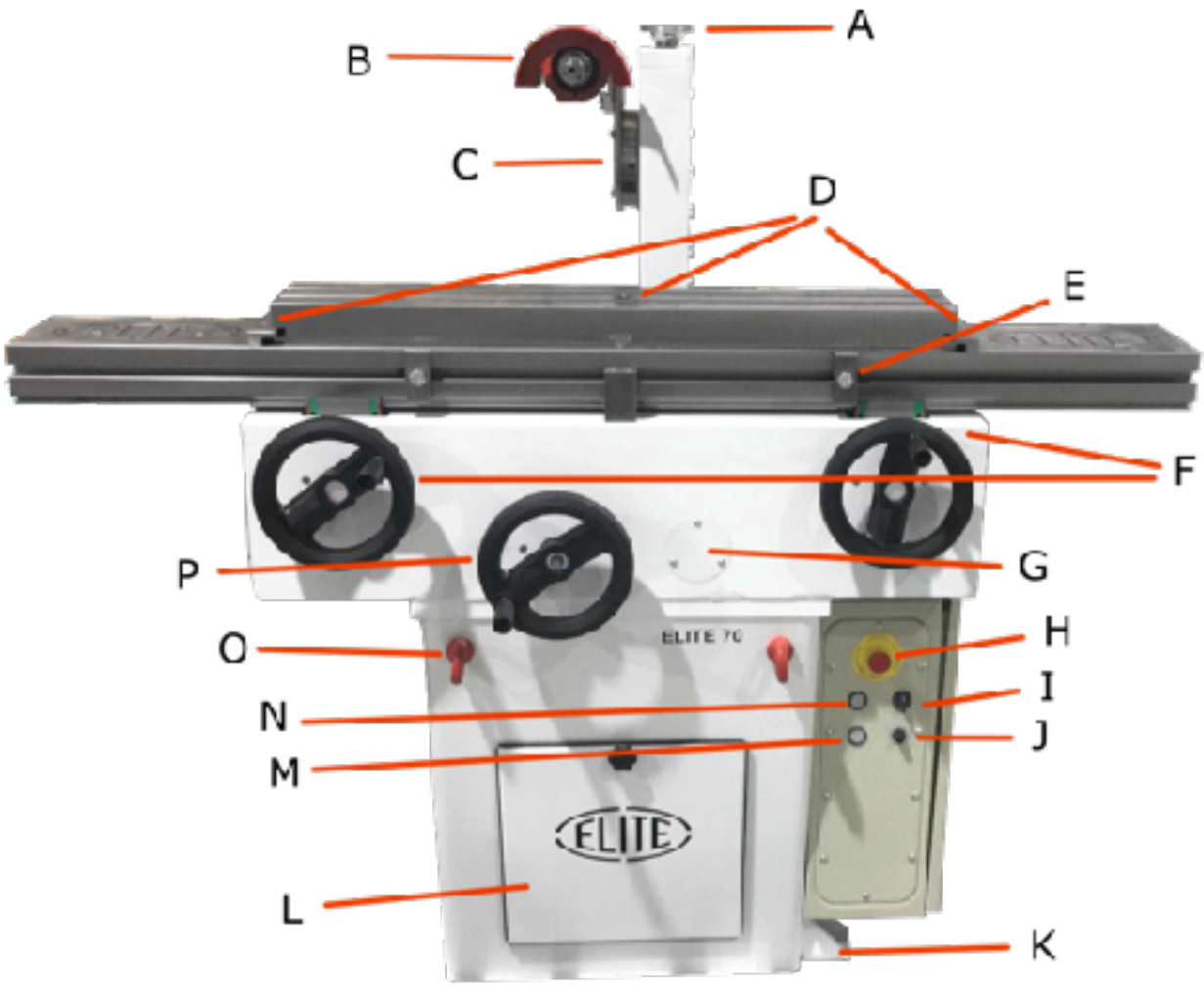


Figure 2

MACHINE OVERVIEW



MAIN MACHINE PARTS

1.- Grinding wheel protector
2.- Vertical travel hand wheel
3.- Adjustment in degrees in the horizontal plane of the column from the vertical
4.- Table travel length adjustment guide
5.- Longitudinal travel hand wheel
6.- Reset button
7.- Emergency stop
8.- Right/left grinding wheel rotation
9.- Grinding wheel speed regulation
10.- Buttons reserved according to machine version
11.- Electrical panel
12.- Accessory storage door
13.- Frontal travel hand wheel
14.- Table base
16.- Working table
17.- Adjustment of degrees in the vertical plane of the column
18.- Abrasive grinding wheel/grinding wheel holder

1. Lifting the machine
2. Positioning
3. Level the machine using the foot screws provided.
4. Unlock the different movements and clean the protective liquid with which some parts are coated.
5. CHECK THAT THE ELECTRICAL VOLTAGE INDICATED ON THE MACHINE CORRESPONDS TO THE ELECTRICAL NETWORK VOLTAGE, connect to the mains (this operation must be carried out by a qualified operator).
6. Check the operation.

MACHINE MAINTENANCE

Bear in mind that machines dedicated to grinding in general, or machines that use grinding wheels of any kind for their work, have a dangerous and common enemy, THE ABRASIVE.

During their operation, certain areas are subjected to a constant projection of particles detached by the grinding wheel and tool or workpiece. Also the micro particles in suspension with the air are deposited until the most hidden places.

It can be operated by means of the steering wheel on the left-hand front panel. It is manually operated and its gear ratio is sufficient to allow you to

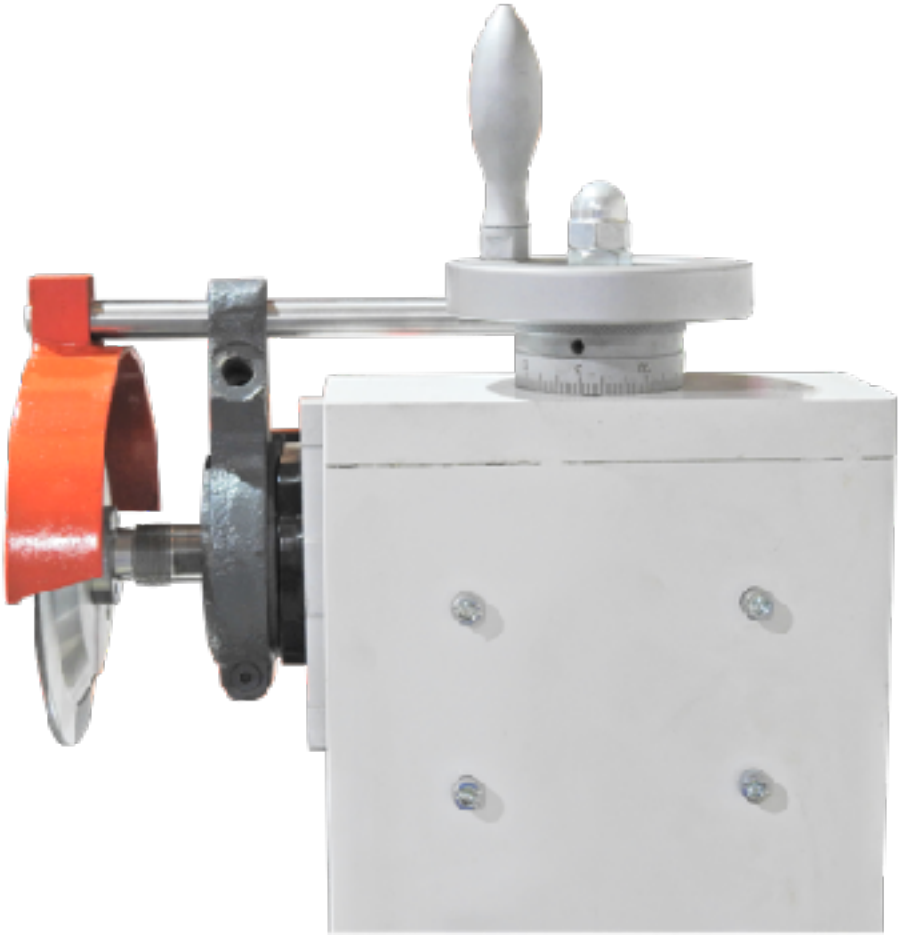
The sensitivity of the longitudinal movement is a vitally important means for the grinding operation, since it allows any pressure, however slight,

If you wish to fix or limit the travel of the worktable in the longitudinal direction, we have the adjustment or fixing stops available. (??)

It is operated by means of hand wheels located at each end of the table that allow us easy access when working.

Grinding head

Direct precision grinding wheel motor made of stainless steel with variable speed from 3000 to 9000 RPM and 1.5 HP.



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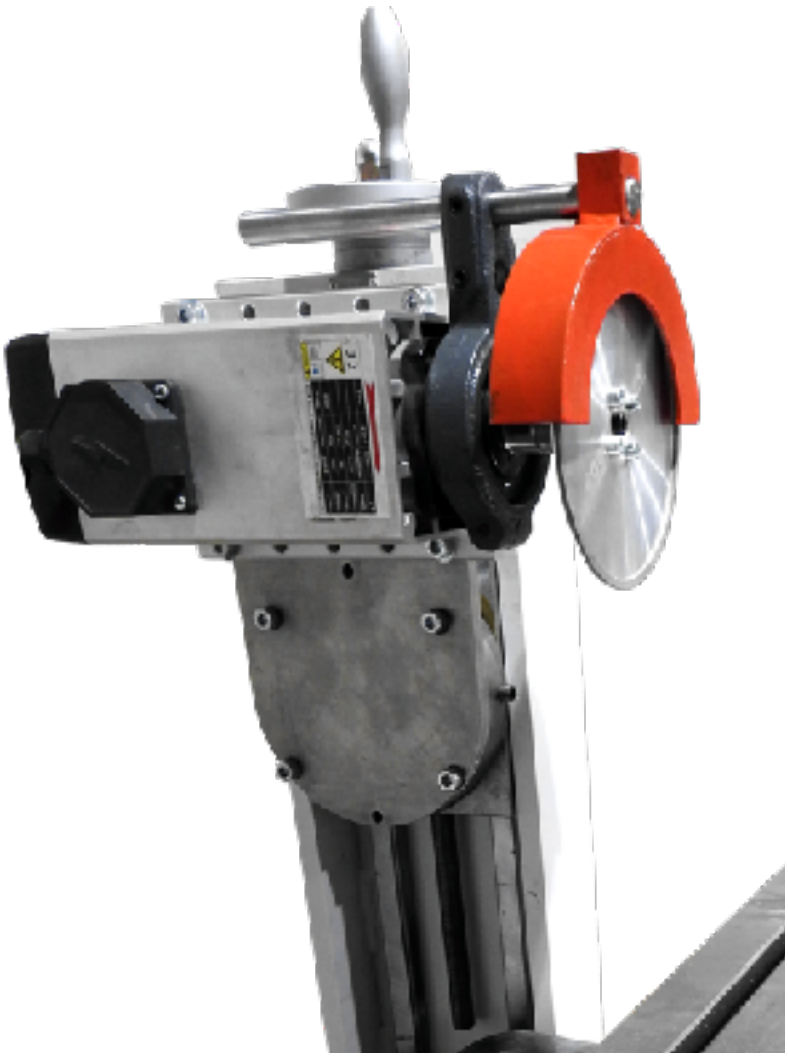
Grinding head shaft movement



The grinding head can be rotated 180º with respect to its vertical axis and 360º with respect to the horizontal axis.

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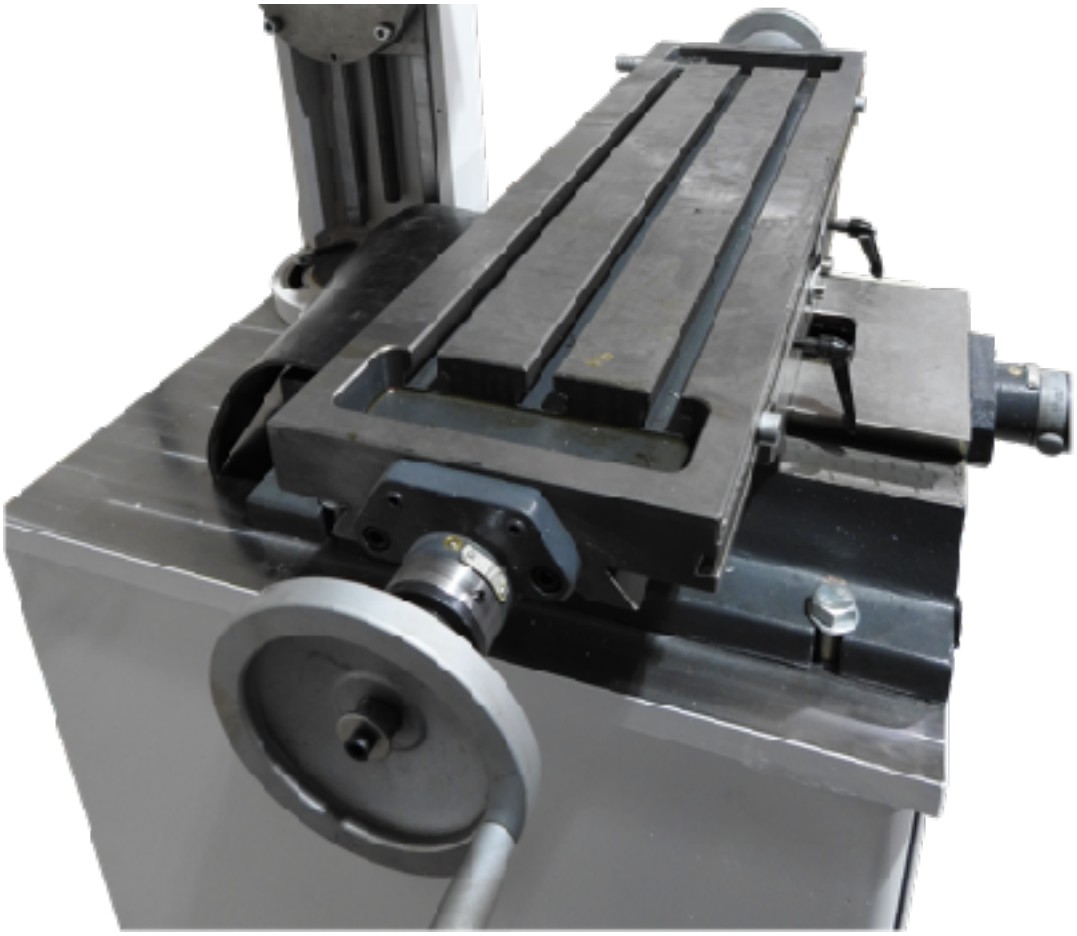
Frontal movement



It can be operated by means of the steering wheel on the left-hand front panel.

Additional accessories

The Elite 70 grinding machine can be optionally equipped with a cooling unit consisting of

- Tank of 15 lts.
- Pump
- Tubes and nozzle with regulating tap.

For cooling purposes, we recommend using Sintocut PRO MIX coolant in the proportion of 3-5 %.

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Machine functions

1. Bench	8. Abrasive disc holder
2. Sliding table	9. Protect cover
3. Working table	10. Fixing screw
4. Adjustment knob	11. Hand wheel
5. Positioning lock	12. Column
6. Hand wheel	13. Adjustment lever
7. Adjustment lever	14. Hand wheel

It can also be additionally equipped with an extraction system for the chips resulting from grinding.

SETTINGS

The grinding head is fixed to the column. The handwheel of the head in the upper column can move it. When the handwheel is turned in a circle, the head moves 2mm. When the handwheel is turned a division, the spindle moves with precision 0,02mm.

The wheel axis is connected with the motor axis. The angle of the grinding wheel axis can be adjusted by the adjusting lever (7).

The grinding head can be adjusted by loosening the two bolts. The safety cover can be rotated through 360° by means of the set screw (10) at the top

Working table

There is a 14mm wide T-slot in the work table, in which any kind of accessories can be fixed in a suitable position. The movement is made with the hand wheel (14).

The travel of the worktable can be adjusted with the positioning lock (5) on the side of the column. The adjustment knob (4) can be used to precisely adjust the table. The hand wheel (14) is to allow the table to be moved again.

Sliding table

The sliding table can be moved 150mm back and forth. When the handwheel (6) turns a circle, the sliding table moves 3mm. A division on the scale shows the movement of 0.03mm.

FUNCTIONS

1. Sharpening of cylindrical milling cutters (rear angle)

The double shank apex template is fixed in the machine. The cutting tool holder is located on the jaw stop. The jaw stop is fixed on the sliding table. The end of the jaw stop will be 3-5mm lower than the centre line of the spindle. The right hand turns the spindle tooth by tooth, and the left hand moves the work table longitudinally and sharpens the cutting tool.

2. Sharpening of single-angle milling cutters

The stem template is fixed on the machine. The sanding wheel is tilted downwards by 3-5°. The tool holder is moved 90°-92° to the left and fixed. The clamping stop is raised to the front of the cutting tool. The right hand indicates the cutting tool, the left hand moves the work table in a longitudinal direction and sharpens the milling cutter.

3. Sharpening of T-slotting milling cutters

We will use the clamping accessory for straight-stem burrs. You will also need the drill sleeve for conical-stem burrs. The drill sleeve can be placed directly in the hole of the tool holder shaft. The grinding wheel is tilted down 3°-10° and held by the angle of the backrest. The jaw stop is lifted to the side of the end mill. The right hand indicates the cutting tool, the left hand moves the

4. Sharpening of three cutters filling cutters

Sharpened on the right side:

The stem template is fixed on the machine. The jaw stop is lifted to the front of the milling cutter. The right hand indicates the cutting tool, the left hand moves the work table in a transverse direction and sharpens the cutter.

Side grinding:

To sharpen the upper part of the milling cutter, the jaw is used to index the cutter. The spindle of the tool holder is tilted upwards by 6-8° and moves 83°-88° from left to right and is fixed. The right hand indicates the cutting tool, the left hand moves the work table in a cross direction and sharpens the cutter.

If the user wants to sharpen more than one three-cutter at the same time, he can fix them in the shank accessory and use the double shank apex template for sharpening.

5. Front end milling cutters

Sharpening the external part

Loosen the bolt and turn the column (12) to the right at a 30° angle and then secure it. Place it in the tool holder's clamps. Fix the chuck on the work table. Co-lock the milling cutter holder on the chuck stop. Move the work table from left to right, while turning the spindle of the tool holder and sharpening.

When sharpening the back angle, the grinding wheel axis and the tool holder axis are adjusted up and down for final sharpening.

Knife sharpening:

Turn the head support at an angle of 85°-90°, turn the column to the left at an angle of 60° and fix them separately. Keep the centre of the grinding wheel 5-10mm lower than the centre of the blade, and also keep the blade horizontal. The scale index on the tail points to the blade. The nut on the back is tightened. The work table moves from right to left and is sharpened.

6. Carving tool sharpening

The cutting tool is set in the spindle of the tool holder.
The tool holder is turned to the right at an angle of 60°. The positioning lock is set in a suitable position. The motor of the grinding head and the tool holder are started separately, so that the grinding wheel and the workpiece are rotated in opposite directions. Use the hand wheel (6) for feeding. Move the work table and sharpen.

7. Tap sharpening

The apex template and concave-type grinding wheel will be used. The cutting tool is fixed on the jaw stop. The right hand chooses the tool tooth. The left hand moves the work table and sharpens.

8. Drill sharpening

The drill template and the flat grinding wheel will be used. The tool holder is turned to the left at an angle of 55°-60° and fixed. Put the drill bit into the holder. Let the tooth plate point to the drill blade. Fix the drill blade and remove the tooth plate. Turn the handwheel and sharpen. The diameter range of the drill sharpening is 5-32.

9. Lathe tool sharpening

The tool holder and the tool holder for lathes will be used. The tool holder is used to adjust the angle of the blade. Clamp the blade after adjustment. Move the work table and sharpen. Clamp the blade in the holder. Use the tool holder to adjust the back angle of the tool. Move the work table and sharpen.

10. Sharpening of gear hobs

The piston rod and the double piston rod template will be used. The jaw stop is lifted in front of the blade. Use both hands for sharpening.

11. Cutting pinion grinding

The electric tool holder and the stem template will be used. Turn the column to the right at an angle of 30º. Turn the tool holder to the left at an angle of 75º-80º and fix it.
Press the button to activate the tool holder and grinding wheel.
Move the work table in a cross direction and sharpen it.

12. Flat grinding

The electromagnetic plate is fixed on the work table to make the grinding flat.

MAINTENANCE

ATTENTION

Do not clean or maintain the machine while is connected to the power source: It can harm the machine and the person!

Therefore: Turn off the machine and disconnect it from the power source before carrying out any maintenance or cleaning work!

The machine is low maintenance and contains only a few parts, which need to be maintained.

Any breakdown or defect that may affect the safety of the machine must be eliminated immediately.

Repair activities can only be carried out by qualified personnel!

Thorough cleaning ensures a long machine life and is a safety requirement.
- The use of solvents, aggressive chemicals or abrasive cleaners
they can damage the machine housing. For cleaning use only mild detergents.

Apply a light coat of anticorrosive (eg WD40) to the unpainted surfaces of the machine.

After each work shift, the machine and all its parts are thoroughly cleaned of dust and shavings with the vacuum cleaner. Do not use compressed air for cleaning, as it embeds the particles inside the guides and bearings.

Check regularly that all warnings and safety instructions are available on the machine and perfectly legible.

Before each use, check the state of the safety devices.- The machine cannot be stored in a humid place and must be protected from weather conditions.
Repair work may only be carried out by qualified personnel!
Lack of maintenance will void the warranty and warranty claims!

Spare parts order

For ELITE machines always use original spare parts to repair the machine. Optimal fit of the parts reduces installation time, increases safety of use and preserves the life of the machine.

For any questions contact us or go to your distributor.

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WARRANTY

All our machines are tested before they are shipped, however there may always be defects that are not visible to the naked eye.

Our machines are guaranteed against manufacturing or material defects under normal conditions of use and maintenance.

The period of this guarantee is 12 months from the date of purchase and consists of the replacement of defective material.

The guarantee will be automatically canceled in the event of a modification outside our company. Or in obvious cases of misuse of the machine.

The warranty does not include parts subject to normal wear and tear due to use, such as grinding wheels.

TECHNICAL ASSISTANCE SERVICE

At ELITE we try to satisfy our customers through reliable and easy-to-use products. However, if you experience any incident while using the machine, do not hesitate to contact us as soon as possible.

On our website: www.elite.es you have all possible means of contact, both directly with us and with our authorized distributors, who will assist you, if available in your country, with better proximity and professionalism.

We want you to enjoy this product for many years, please: when the life of the machine ends, dispose of it correctly to the necessary agencies for proper disposal and recycling.

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