



TRIAX PRO

TRIAX PRO

Operating Manual

Original Instructions

D446001XA

vers. 1.0

CE

EN



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ELECTRICAL DIAGRAMS

CE DECLARATION

USING THE MANUAL

This manual has been drawn up by the Manufacturer and is an integral part of the machine equipment. The manual gives information that is compulsory for the operator to know and that makes it possible to use the machine safely.

OPERATING MANUAL

This operating manual provided with the machine is essential for using the machine properly and performing any necessary maintenance operations.

The manual must be kept throughout the machine's working life, including decommissioning. Keep it in a dry place close to the machine where it is always to hand for the operator.



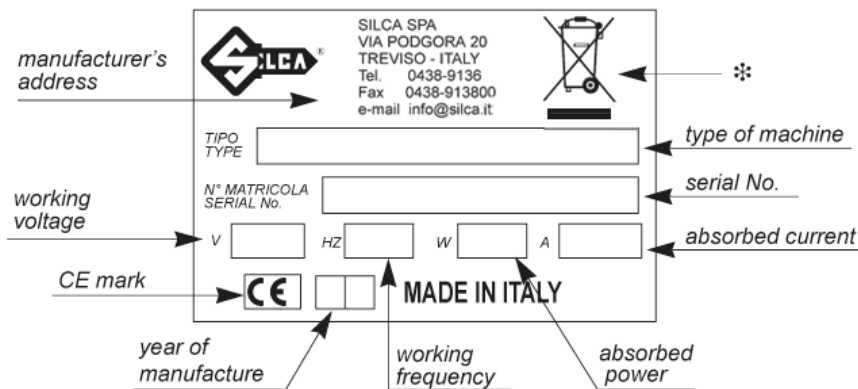
IT IS OBLIGATORY to read the manual carefully before using the machine.

READERS' CHARACTERISTICS

This manual must be read and its contents acquired by those who will use it.

MANUFACTURER ID

TRIAX PRO has an ID plate on the back of the machine, showing its serial number.



(*) see chap.9 DISPOSAL

HOW TO APPLY FOR AFTER-SALES SERVICE

Silca provides purchasers of TRIAX PRO with after-sales service.

To ensure total safety for the machine operator, all operations not specified in this manual must be carried out by the manufacturer or in the special Silca recommended Service Centres.

At the end of this manual you will find the manufacturer's address and the addresses of authorized Service Centres.

The warranty attached to the machine guarantees free repairs or replacement of faulty parts in the 24 months following purchase.*

All operations must be agreed between the user and Silca or the authorized Service Centres.

* Parts damaged due to careless or wrong use of the machine will null the warranty.

GLOSSARY SYMBOLS-TERMINOLOGY

To aid clarity, below is a glossary of the commonly used symbols and terms connected with the keys, key-cutting machine and software.

Such symbols and terms will be used in the manual with reference to this page, but we advise reading the page before continuing.

GLOSSARY

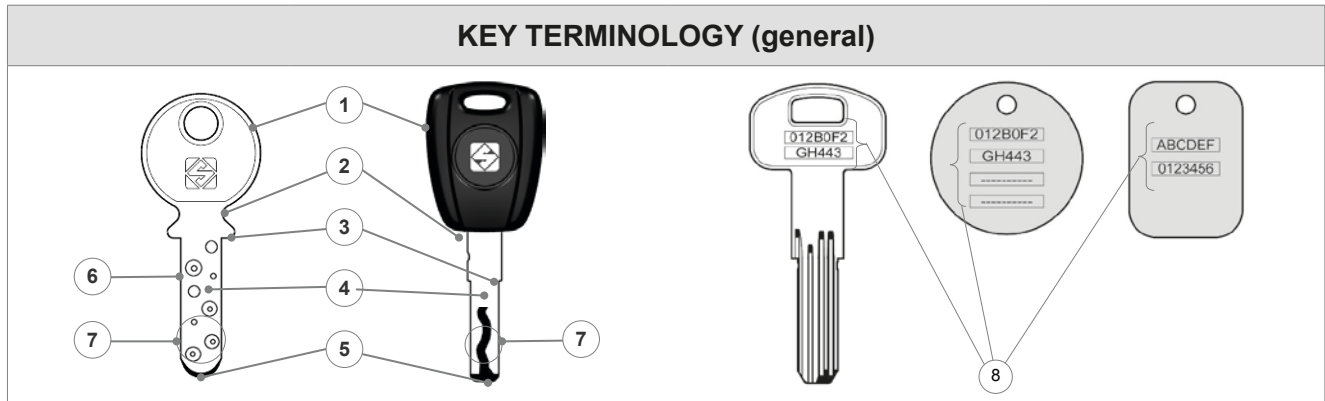
USB PEN	Universal Serial Bus pen
Engraving	Function used to engrave keys and medals
Cutter W101, W102, W103,	The letter indicates the material (W = hard metal), the number its configuration (draft angle, base of cut, ...)
Cutter H101, H102, H103,	The letter indicates the material (H = HSS), the number its configuration (draft angle, base of cut, ...)
Decoder U101, U102, U103,...	Tracer points for decoding (to fit in the place of a cutter)
Clamp R29+R28	Clamp provided with the Triax key-cutting machine (key cutting and engraving)
Clamp R2, R3, ...	Optional clamps for special systems/locks
System/lock	Means the set of information pertaining to the key to be cut E.g.: see examples in symbol table (below)
.....	Each dot represents one cut; the number of dots corresponds to the number of cuts on the key
Tracer Tower	A Silca invention comprising a tower system for holding commonly used tracer points for decoding keys on TRIAX PRO
User/operator	Persons assigned to the use of the machine
Make	Means the make of cylinder or vehicle for the key to be cut E.g.: Kaba®* (cylinder make) – Fiat®* (vehicle make)
Silca Serial Number (SSN)	Serial number given by Silca to systems/locks. Found in Silca key catalogues or Silca software programs
Sides	Cut sides of the key
Axis	A row of cuts on a key
Cutting pitch	Distance from the key stop to the centre of the first cut, or from the centre of a cut to the centre of the next one
(SC)	Data cards
(SR)	Series
(TB)	Code tables
r/h arrow key - l/h arrow key	r/h arrow key - l/h arrow key
Belt cover	Top cover
Tool	Cutter or decoder

Table 1

(*) are registered trade marks

TERMINOLOGY

For those who have no experience of keys and key-cutting, below is an illustration of the most frequently used terms:



1. Head
2. Neck
3. Stop
4. Blade
5. Tip
6. Back
7. Cuts

8. Engraving area

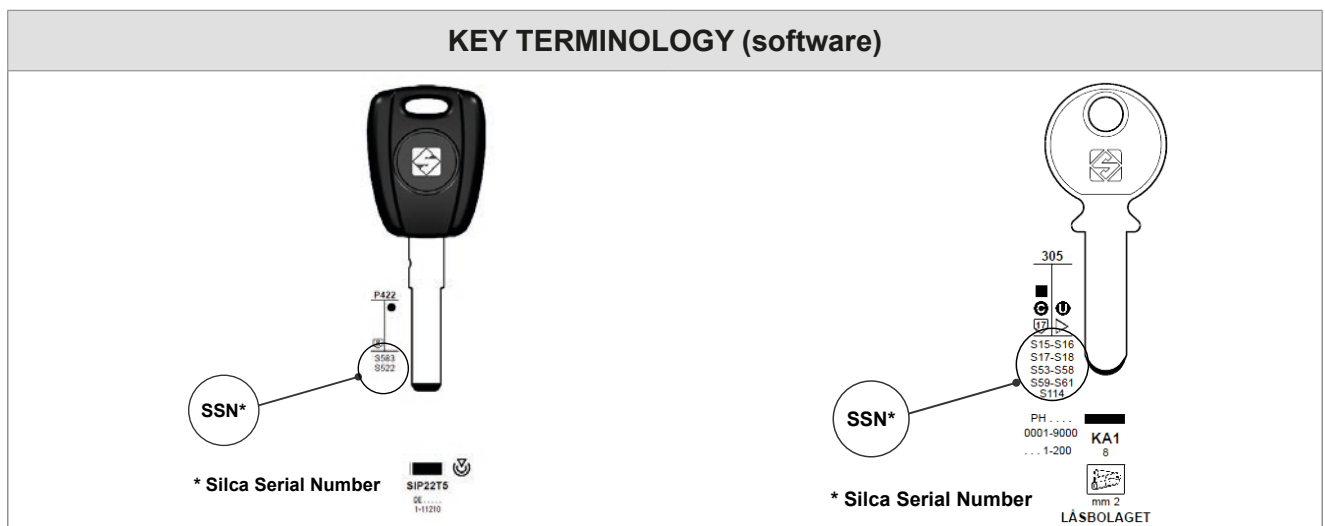
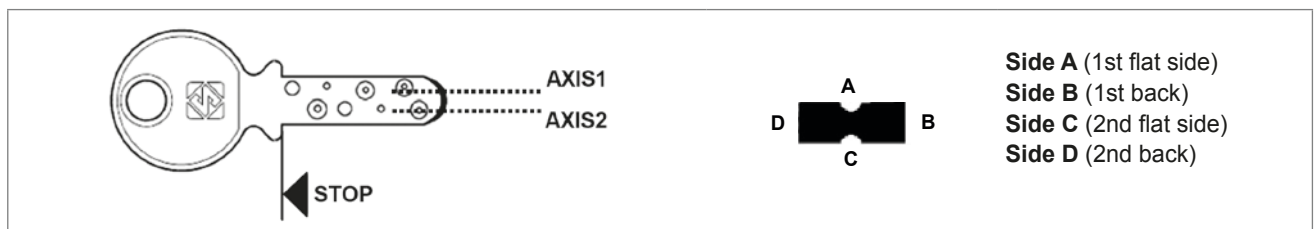


Fig. 3

Fig. 4



ATTENTION: anodised aluminium dimple/laser keys, plastic keys or any other key without electrical conductivity **CANNOT BE** decoded! For these types of keys digit the cuts directly or enter the indirect code if the SSN in use allows it.

NOMENCLATURE OF SYSTEMS-LOCKS INSERTED IN MACHINE

Examples:

- The description “SIP22T5 (2T-8W)” used for a “Fiat®*” System/Lock is made up of a first part (SIP22T5) which is the Silca key blank used and a second part (2T) which is the number of grooves on the key and (8W) the number of its blades.
- The description “8 (4 +4P) 1-200” used for a “Kaba®*” System/Lock is made up of a first part (8) which is the name of the system, a second part (4+4P) which is the number of pins on the 2 key-cutting axes and a third part which gives the indirect cutting code (1-200).

A	Numero di assi o file di pistoncini/perni
L	Indica che la fila principale di pistoncini è sul lato Sinistro della chiave
R	Indica che la fila principale di pistoncini è sul lato Destro della chiave
P	Numero di pistoncini/perni per ogni asse/fila
T	Numero di tracce di tipo Laser
W	Numero di lamelle
pf	Esempio “pf 121” indica “profilo originale 121”

(*) are registered trade marks

GRAPHICS ON MACHINE DISPLAY




















SSN	(e.g. 16)	Silca Serial Number
	(e.g. 8-8)	Maximum number of cutting positions for each axis on the key
	8(4+4P)	SSN description
		SSN with protected code table only
		SSN with code table enabled
	1-200	Indirect cutting codes
	KA1	Silca key blank proposed for duplication
	KABA	Manufacturer of system and/or applications involved
		Silca SSN
		SSN protected by password (Locked).
		SSN enabled (Released)
		An engraving template is associated to the system in question
		User-created series
		UTP (Unlimited Token Plan)

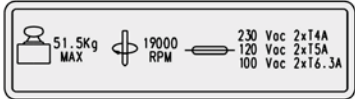
Table 2

GRAPHICS IN THE MANUAL

		
<p>Pay attention</p>	<p>Obligation to read the manual</p>	<p>Symbol on UTP version</p>

GRAPHICS ON THE TRIAX PRO KEY-CUTTING MACHINE

		
<p>Do not clean with compressed air</p>	<p>Obligation to read the manual</p>	<p>Symbol on UTP version</p>

 <p>Electrical voltage hazard</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>ATTENTION DANGEROUS MOBILE PARTS</p> </div>	
<p>This sign highlights the electrocution hazard from direct/indirect contact with electrical voltage.</p>	<p>Adhesive label "DANGEROUS MOBILE PARTS" (provided - see Ch.1.1)</p>	<p>Adhesive label Mass - RPM</p>

GENERAL WARNINGS

TRIAX PRO is designed in observance of the principles of European Standards (CE).

Right from the design stage solutions are adopted to eliminate hazards for the operator at all stages of use: transport, regulation, use and maintenance.

The materials used for the machine and the components employed in the use of the TRIAX PRO are not hazardous and make the machine comply with current standards.

Silca S.p.A. has also experimented and applied many technical solutions that allow its key-cutting machines to optimize the quality of the cut keys.

To ensure these results over time, observe the following instructions:

- **Observe the procedures described in this manual;**
- **Use only Silca Original Tools as they are designed to achieve the best performance of the TRIAX PRO and quality key-cutting;**
- **Use Silca key blanks, manufactured in top quality materials;**
- **Periodically have the key-cutting machine serviced by an authorized Silca Service Centre (list at the end of this manual);**
- **Use only Silca Original Spares. Beware of imitations!**

USE

The installation method and proper use of the machine are those laid down by the manufacturer. Any other use different from that indicated in this manual will null customers' claims on Silca S.p.A. and may be a source of unknown hazard for the operator in default or third parties.



ATTENTION: negligent use or the operator's failure to observe the instructions in this manual are not included in the warranty conditions and the manufacturer declines all responsibility in such cases.

RESIDUAL RISKS

The TRIAX PRO machine has residual risks in the highlighted area.

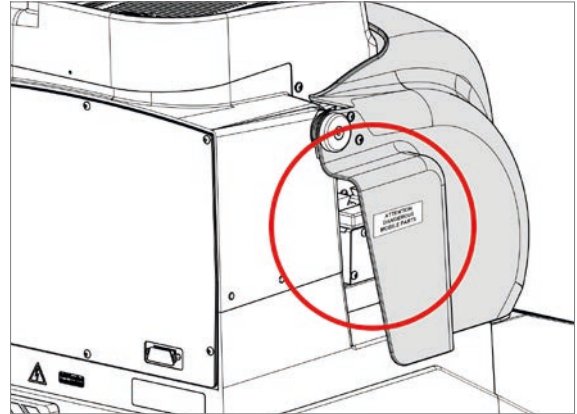


Fig. 5

SAFETY REGULATIONS



- Always disconnect the machine when it is not in use or when maintenance is to be carried out.
- Periodically check the electrical wiring; if the wires are worn replace them immediately.
- Always make sure your hands are dry and not oily or greasy.
- Never pull the power lead; make sure it does not come into contact with oil, sharp objects or heat. Never remove the earth wire from the plug. Make sure the earth wire is securely connected.
- Do not use the machine in dangerous areas (damp or wet).
- All visitors, especially children, must stand at a safe distance and not come into contact with the machine and its wiring.

1 MACHINE WORKING PARTS

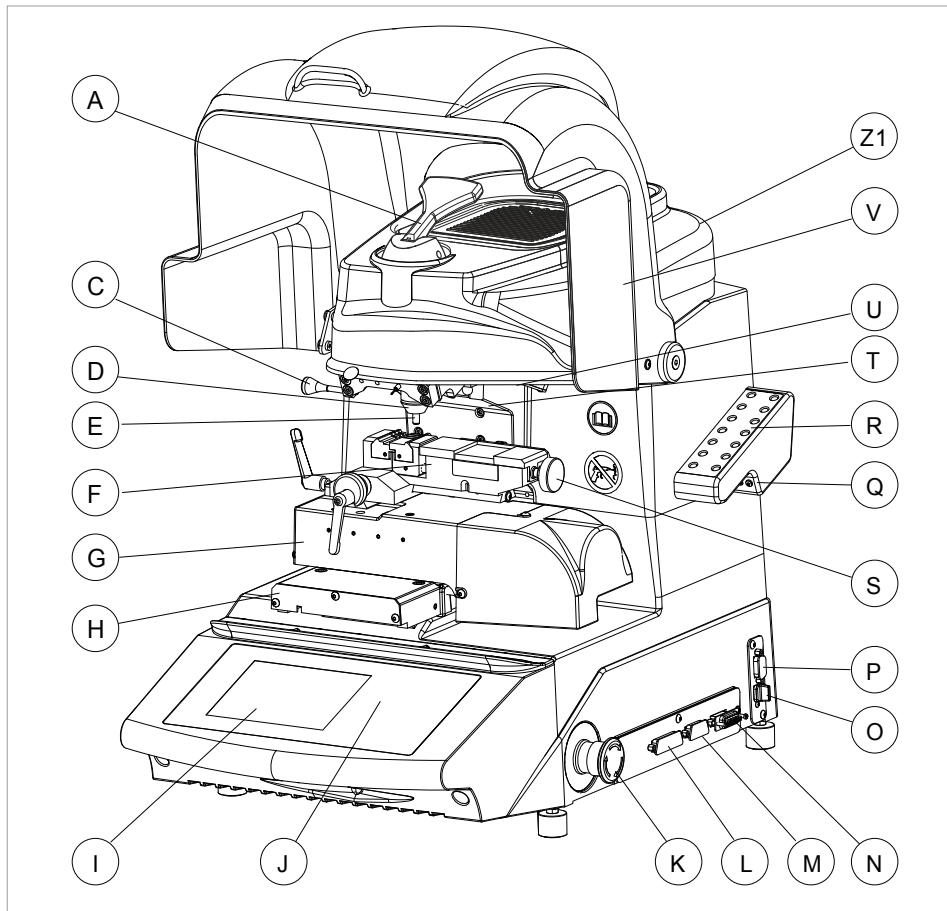


Fig. 6

- A - tool-locking lever
- C - Tracer Tower lever
- D - spindle
- E - cutter
- F - clamp R29-R28
- G - upper carriage
- H - lower carriage
- I - display
- J - keypad
- K - emergency button
- L - IN/OUT port
- M - B axis
- N - upper axis connector
- O - USB port for PC
- P - serial port for PC
- Q - USB PEN holder
- R - tool holder
- S - clamp knob
- T - vertical carriage
- U - lamp
- V - safety shield
- W - vacuum system connector
- X - power socket
- Y - fuse holder
- Z - ON/OFF switch
- Z1- belt cover

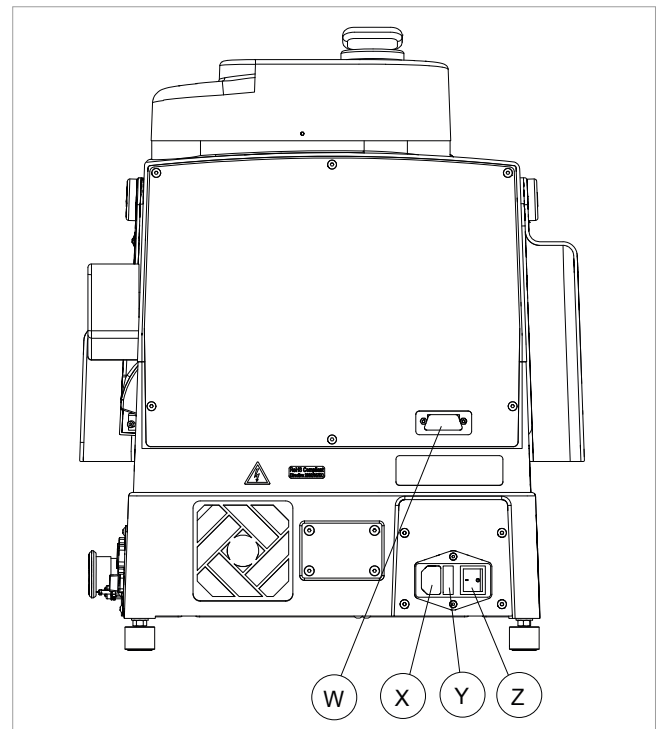


























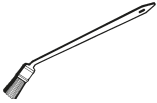







Fig. 7

1.1 ACCESSORIES PROVIDED

TRIAX PRO comes with a set of accessories for use and maintenance (tools, hex keys, fuses ...) held in a special tool box:

<p>Tool box</p> 	<p>1,5 mm hex key</p> 	<p>5 mm hex key</p> 
<p>Steel bar</p> 	<p>2 mm hex key</p> 	<p>6 mm hex key</p> 
<p>1.6 Amp delayed fuse (230V) D904184ZR</p> 	<p>2,5 mm hex key</p> 	<p>10 mm spanner</p> 
<p>2 Amp delayed fuse D912423ZR</p> 	<p>3 mm hex key</p> 	<p>13 mm spanner</p> 
<p>1 Amp delayed fuse D909227ZR</p> 	<p>4 mm hex key</p> 	<p>2,5 mm T-shaped hex key</p> 
<p>4 Amp delayed fuse D908726ZR</p> 	<p>Z4 serial test receptacle D916661ZR</p> 	<p>"SILCA ENGRAVING PROGRAM" CD</p> 
<p>6,3 Amp delayed fuse D910652ZR</p> 	<p>Calibration template Z5</p> 	<p>Adhesive to attach to tool housing D937255ZR</p> 
<p>8 Amp delayed fuse D917515ZR</p> 	<p>USB PEN D937449ZR</p> 	<p>Adhesive to attach to safety shield</p> 
<p>W500 cutter D738590ZB</p> 	<p>Tracer point U103 D911108ZR</p> 	<p>Bent brush D906935ZZ</p> 
<p>W101 cutter D709238ZB</p> 	<p>Calibration pin D904174ZR</p> 	<p>Serial cable D909281ZR</p> 
<p>W146 cutter D734267ZB</p> 	<p>USB-USB cable D929095ZR</p> 	

1.2 TECHNICAL DATA

Power supply:	230V - 50Hz 100V - 50/60Hz
Maximum absorbed power:	230V: 1 Amp. 230 Watt 100V: 2.5 Amps. 250 Watt
Cutter motor:	Brushless Motor 48V - 200W
Cutters:	Usable
Tool speed:	6000-19000 rpm
Movements:	on 3 axes with ball screws activated by step motors on rectified roller guides.
Clamp:	R29+R28 removable - R29: provided with 01J-02J jaws for copying dimple/laser keys - R28: for engraving
Runs:	lower axis Y 57 mm upper axis X: 32 mm vertical axis Z: 30 mm
Dimensions:	width: 450 mm depth: 600 mm height: 510 mm (with shield raised 680 mm)
Mass:	Kg. 51.5
Noise rating:	sound pressure L_p (A) = dB(A) 77 (cutting steel keys) brass dimple keys $Leq.$ (A) = dB(A) 68.2 nickel silver dimple keys $Leq.$ (A) = dB(A) 72.9 nickel silver laser type keys $Leq.$ (A) = dB(A) 70.4 steel laser type keys $Leq.$ (A) = dB(A) 72.3

1.3 SAFETY

- **Safety shield**

The transparent safety shield is designed to cover the working parts and make them as safe as possible.

The shield must be raised to fit keys to be cut or to perform other operations on the machine.

Raising the shield, controlled by microswitches, deactivates the operational functions and movements, including those for the cutter, and signals that the shield has not been lowered with a special message on the machine display.

To activate the work cycle, close the shield and press the START key on the machine keypad.

- **Emergency Stop**

In the event of malfunctioning or a hazard for the operator the machine can be stopped immediately by pressing the red emergency button on the right-hand side.

When the cause of the emergency has been eliminated, release the button by turning it 45° clockwise.



ATTENTION: it is the operator's task to keep the area around this button completely free so that it can be reached and activated as quickly as possible.

2 TRANSPORT

The key-cutting machine is easily transported and its handling does not involve any special hazards. It can be packed and transported manually by 2 (or more) persons.

2.1 PACKING

The packing for the TRIAX PRO machine ensures that during transport the machine and all its components are safe and protected.

The packing comprises a pallet base on which the machine stands and is secured, and a cardboard cover.

The machine is secured to the base with screw brackets that stop the load from sliding during transport, which could damage the safety shield in particular.

When the packing is closed it is held by two straps that tie the cardboard box firmly to the pallet.

The symbols on the outside of the cardboard box give transport instructions.



ATTENTION: keep the packing to use when re-locating the machine.



Keep dry



Handle with care



Up



Do not use hooks



ATTENTION: when transporting the machine, use the original packing and secure the machine with the special brackets.

2.2 UNPACKING

To remove the machine from its packing:

- 1) Cut the straps and remove.
- 2) Raise the top part of the cardboard box.
- 3) Loosen the screws fixing the front and rear brackets holding the machine to the pallet.
- 4) Use the special key to loosen the nuts on the feet by a couple of turns.
- 5) Remove the metal brackets and tighten the nuts on the feet.
- 6) Check the contents of the packing:
 - 1 TRIAX PRO key-cutting machine
 - 1 Machine documentation: operating manual, spare parts list, expert guide and warranty form
 - 1 Power lead
 - 1 Tool box

2.3 MACHINE HANDLING

Once removed from the packing place TRIAX PRO directly on a workbench; the operation should be carried out by at least 2 persons.



ATTENTION: when lifting the machine take hold of the base only (Fig. 8). Never lift the machine by holding onto the keypad support (Fig. 9).



Fig. 8



Fig. 9

3 MACHINE INSTALLATION AND PREPARATION

It is the customer's task to install the machine, which does not require special skills.

The key-cutting machine is supplied ready for use and does not need assembling; however, the machine should be checked and prepared for use.

3.1 CHECKING FOR DAMAGE

TRIAX PRO is a solid compact machine which will not break if transport, unpacking and installation are carried out according to the instructions in this manual. In any case check the condition of the machine.

3.2 ENVIRONMENTAL CONDITIONS

To use the key-cutting machine efficiently the following environmental parameters are important: environments with high humidity and poor air circulation are not advisable.

The optimum environmental conditions for the machine are:

temperature 10°C to 40°C; relative humidity: approx 60%

3.3 POSITIONING

Follow the procedure described below:

- 1) Place the key-cutting machine on a horizontal work bench solid enough to take its weight (51.5 Kg) and big enough to allow comfortable access to the working parts. The work bench should be at the same height as the operator's hips. We recommend leaving a clearance of at least 30 cm at the back and sides of the machine to ensure good ventilation (Fig. 10).
- 2) Take the USB PEN from the tool holder and insert into its port.
- 3) Make sure the mains voltage is suitable for the machine and that it has an earth connection and differential switch.
- 4) Connect the power lead to the socket and plug.

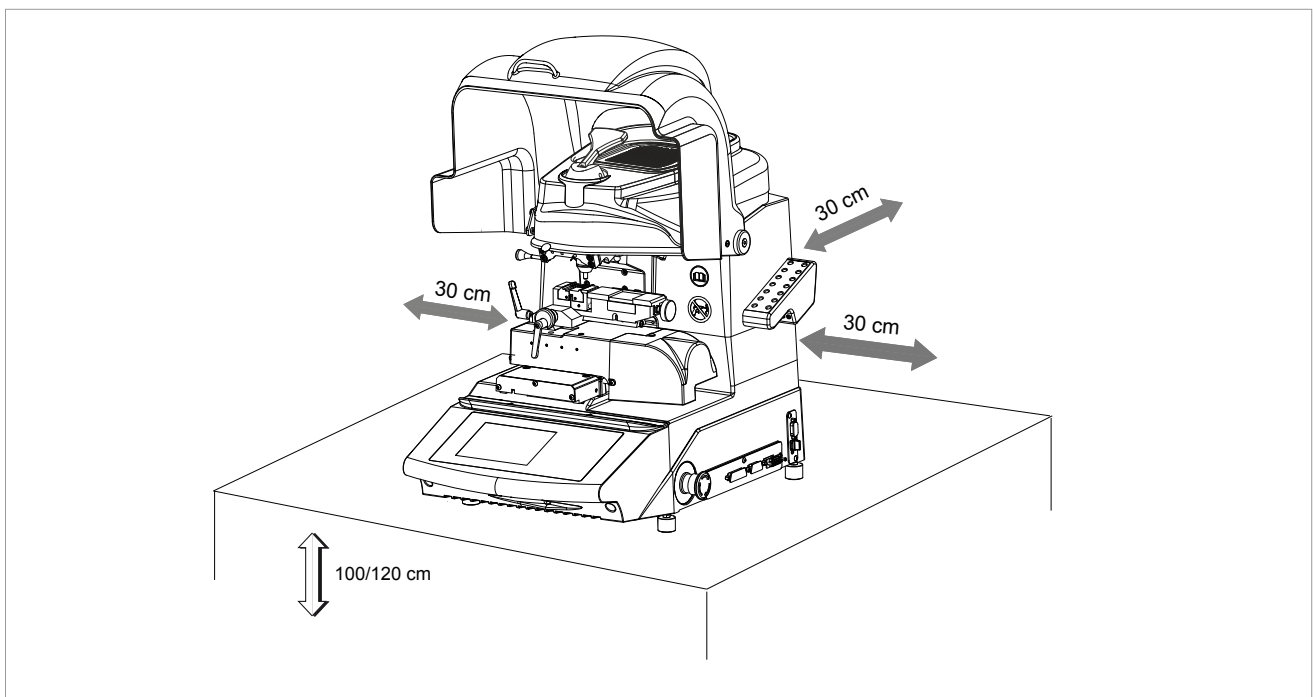


Fig. 10

3.4 WORK STATION DESCRIPTION

Only one operator is required to work the key-cutting machine and the following controls are available:

- 1) Master switch on the back of the machine.
- 2) Key-positioning clamp.
- 3) Control keypad.
- 4) Display.
- 5) Emergency button.

3.5 SEPARATE PARTS

The separately packed parts must be installed on the key-cutting machine by the purchaser, as follows:

3.5.1 Power cable

Connect the key-cutting machine power cable to the electricity mains (Fig. 11).

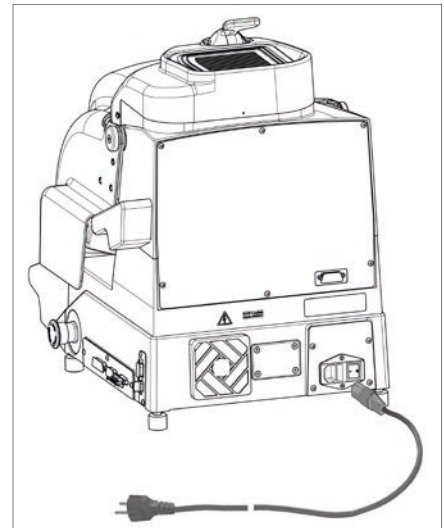


Fig. 11

3.5.2 Warning label

Place the adhesive label in the appropriate language in position as shown in Fig. 12.

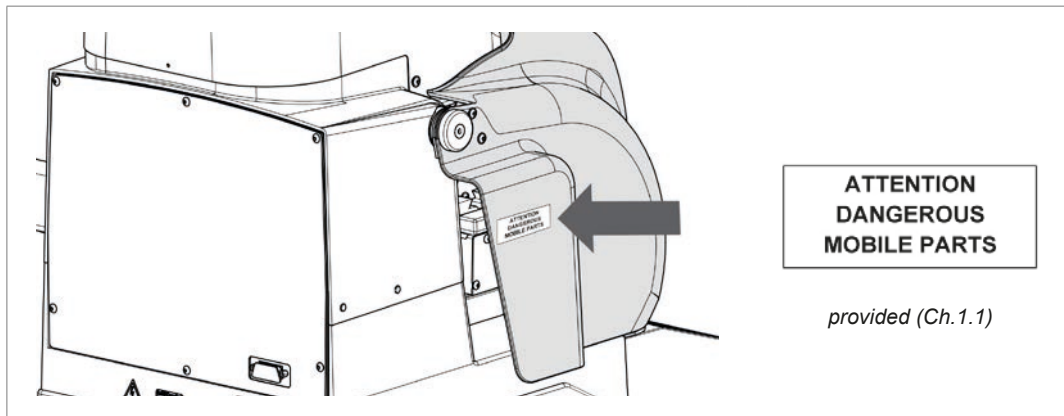


Fig. 12

NOTE: it is forbidden to remove the labels.

4 MACHINE DESCRIPTION

TRIAX PRO is an electronic key-cutting machine used to:

a. CUT KEYS (in ferrous material in general; brass, silver nickel, etc.) by:

- DIMPLE cutting.
- TRACK cutting.
- Special cutting (e.g. Tibbe with option)
- Pipe key cutting (with option)



ATTENTION: anodised aluminium dimple/laser keys, plastic keys or any other key without electrical conductivity **CANNOT BE** decoded! For these types of keys digit the cuts directly or enter the indirect code if the SSN in use allows it.

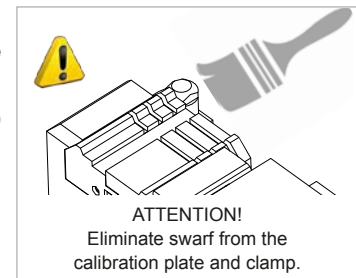
b. ENGRAVE keys and medals:

- The keys and medals must be in metal.
- Engraving cannot be carried out on other materials (wood, paper, plastic, ceramics...).
- The maximum dimensions of the subject to be engraved are: 38x40 mm (see Fig. 24).

4.1 REGULATION AND USE



ATTENTION: to ensure that the Z axis works properly the calibration plate must be kept constantly clean with the brush provided in order to avoid pollution by swarf. A false contact due to swarf will produce a Z cut (depth) of the wrong measurement.



ATTENTION: do not apply excessive pressure in order to grip the key in the clamp. We also recommend holding the key down well in the clamp during the closing operation, in order to avoid bending, bad alignment or parts that are not properly seated on the clamp surface (Fig. 13).

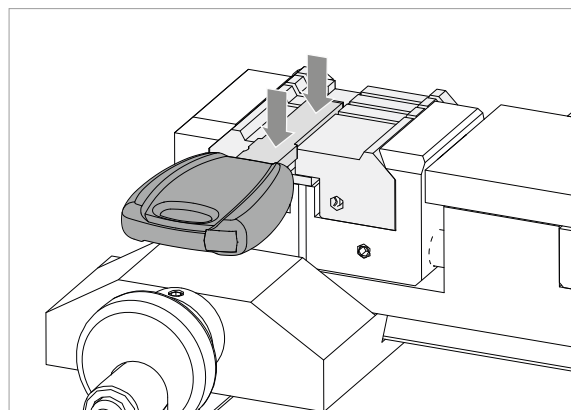


Fig. 13

4.2 USING THE R29+R28 CLAMP

The machine is supplied with a set of clamps “R29+R28”, illustrated in Fig. 14.

R29: for CUTTING dimple and track keys

R28: for ENGRAVING keys and medals

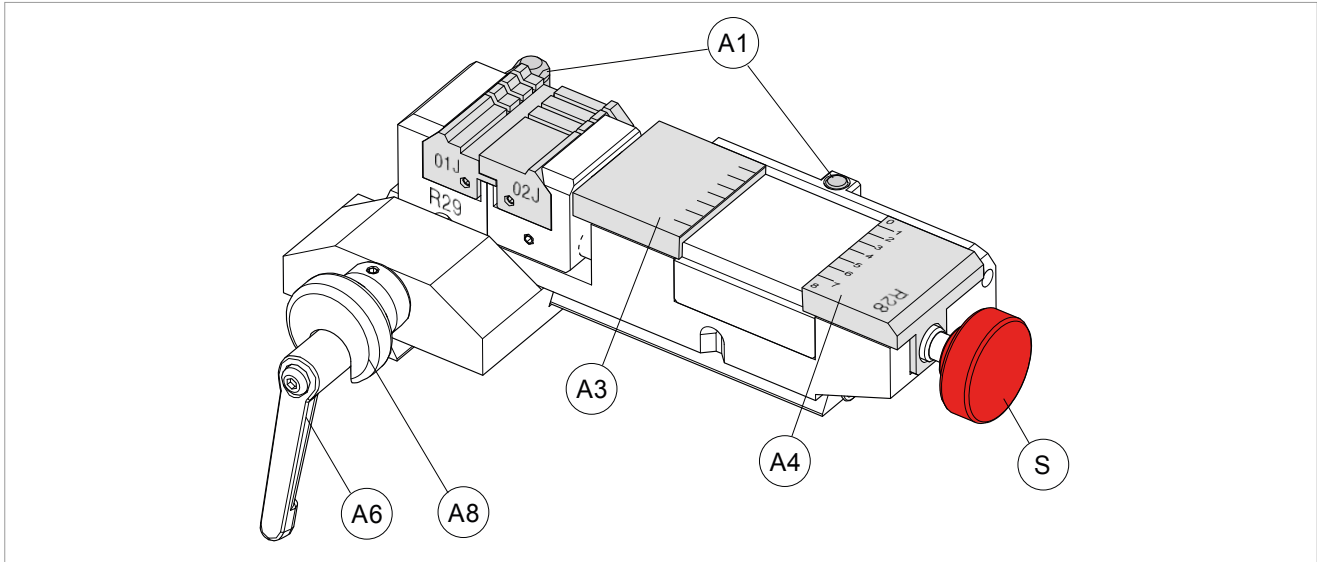


Fig. 14



ATTENTION: to calibrate the R28 clamp, turn the knob (S) anticlockwise to fully close the 2 jaws (A3) and (A4).

- The clamp set comes with 2 locking notches that allow proper positioning for the operation involved (clamp R29 and R28).
 - loosen the handle (A6) by one turn and pull the anatomical grip (A8) towards the operator to release the clamp so that it can slide from side to side.
 - release the anatomical grip (A8) and move the clamp manually so that the positioner locks the clamp on the first notch it finds. When the required clamp (R29 or R28) position is reached, close the grip (A6).
- The clamp is also provided with 2 calibration plates (A1) for the Z axis (sprung), one for R29 and one for R28 which the cutter uses to home itself at the beginning of the cutting or engraving process for a new key or medal.

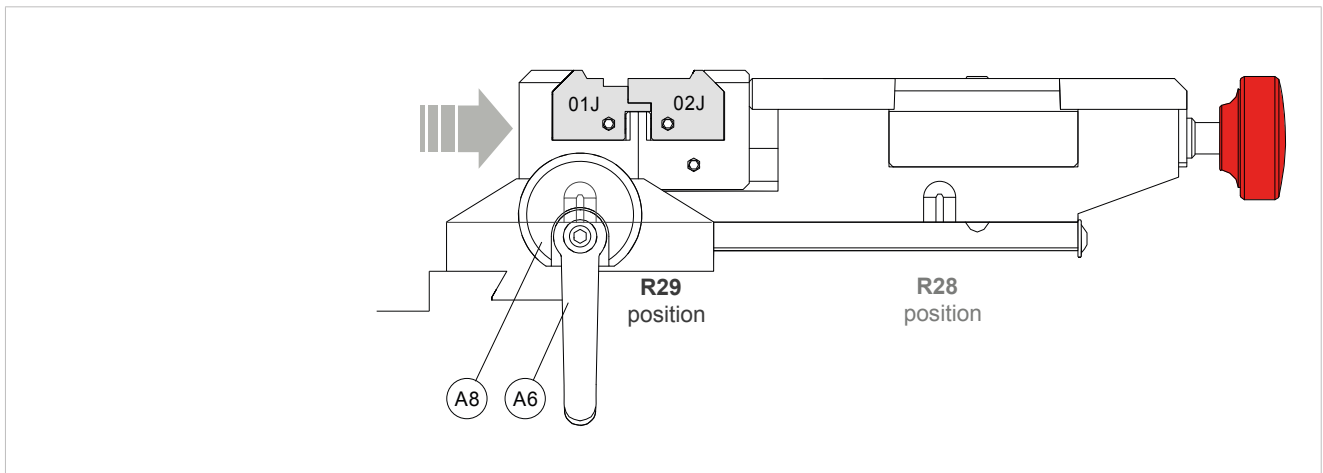


Fig. 15 - R29 position: CUTTING

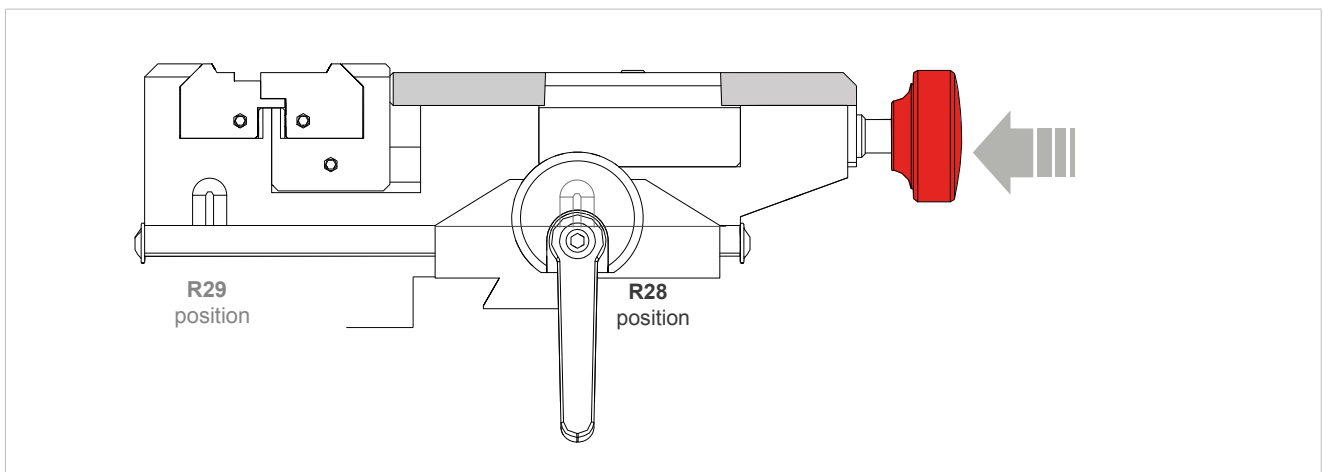


Fig. 16 - R28 position: ENGRAVING

4.2.1 Clamp R29 for CUTTING DIMPLE and TRACK TYPE KEYS

According to the type of key to be decoded and/or cut, follow the instructions in the Silca tablet program regarding:

- use of jaws 01J and 02J.
- clamp stop (Fig. 17 e Fig. 18).

4.2.1.1 Fitting the key

The R29 clamp is prepared for housing high security keys with head stops, or keys with tip stops.

The former (with head stops) are positioned up against the clamp (Stop "0") (Fig. 17) and the others (tip stops) are positioned referring to one of the grooves (1-2-3) as shown on the machine display. Use the bar provided for this operation (Fig. 18).

NOTE: the stop bar must be removed before decoding or cutting.

- 1) Fit the key to be cut into its seat and ensure it is resting firmly on the clamp plate.
- 2) Tighten the knob (S) to secure the key.

DIMPLE keys

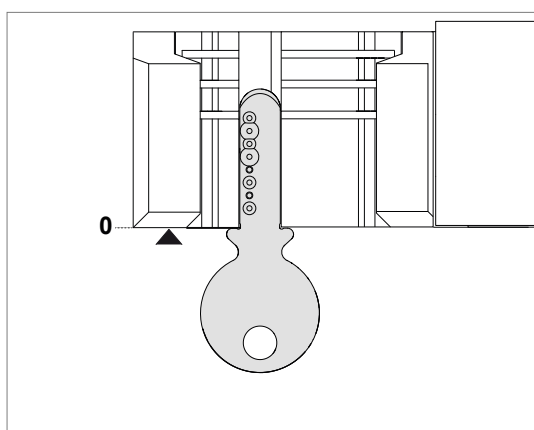


Fig. 17 - SHOULDER STOP

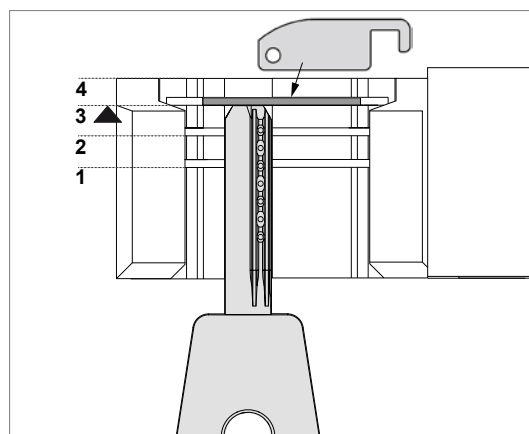


Fig. 18 - TIP STOP

TRACK type keys

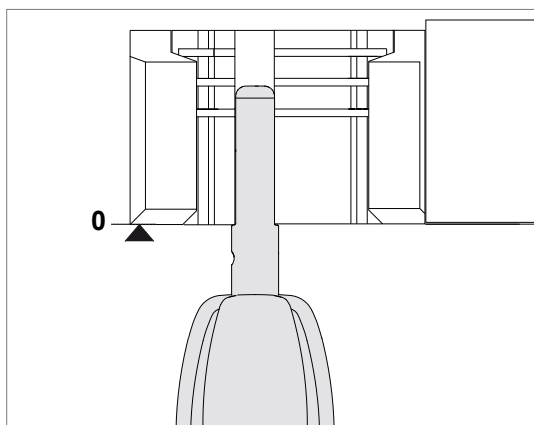


Fig. 19 - SHOULDER STOP

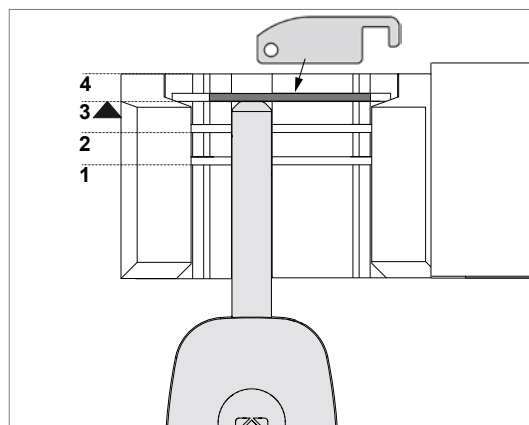


Fig. 20 - TIP STOP

4.2.1.2 Removing/fitting the jaws on clamp R29

- 1) Raise the safety shield.
- 2) Loosen the knob (S) by a couple of turns.
- 3) Use your fingers to pull the jaw to be removed out towards the operator (Fig. 21).
- 4) Carefully clean the seat of the jaw on the clamp.
- 5) Clean the jaw before fitting into the clamp.
- 6) Fit the jaw up against the stop pin (S1).

NOTE: *there is only one way to fit the jaw into the clamp.*

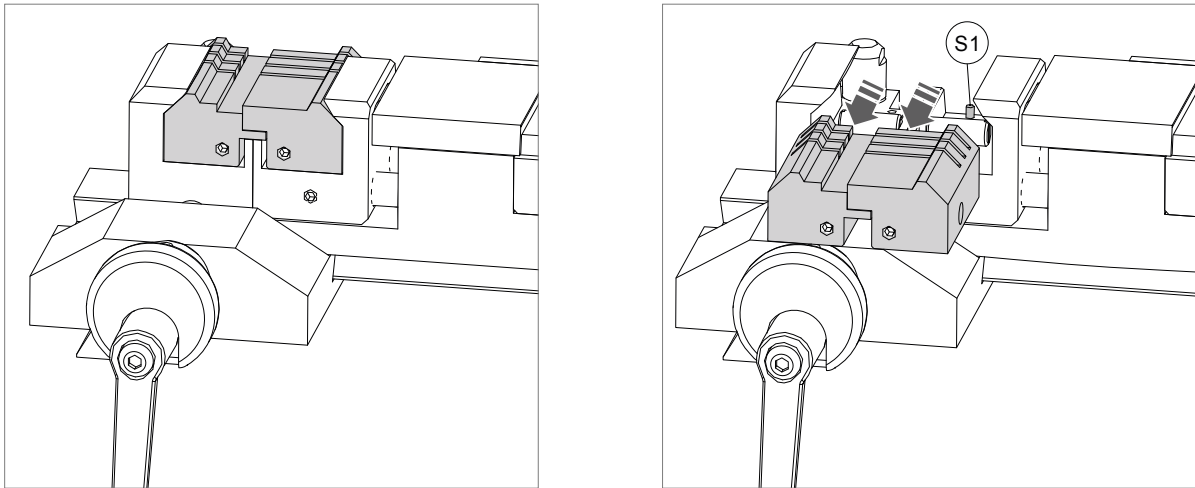


Fig. 21

4.2.2 R28 clamp for ENGRAVING keys and medals

The R28 clamp (Fig. 22) is prepared to house keys* and medals* to be engraved.

To open the clamp jaws (A3 and A4) and fit the key or medal to be engraved, turn the knob (S) clockwise.

Turn the knob (S) anticlockwise to close the jaws (A3) and (A4) and secure the object (key or medal) to be engraved. On top of the 2 jaws on the R28 clamp there are positions numbered 0 to 8 which are used as a reference and aid the operator in positioning the key or medal to be engraved.

Cutter to use for engraving: W146.



ATTENTION: (*) keys and medals must be metal. Engraving cannot be carried out on other materials (wood, paper, plastic, ceramics...). (*) the maximum dimensions of the object to be engraved are: 38x40 mm (Fig. 24).

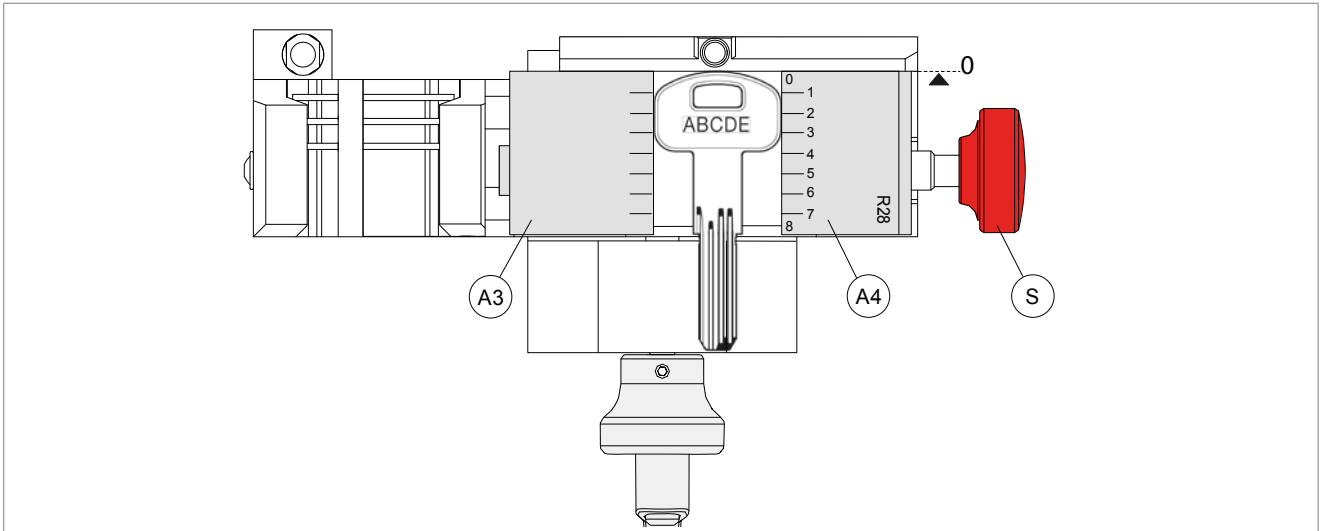


Fig. 22

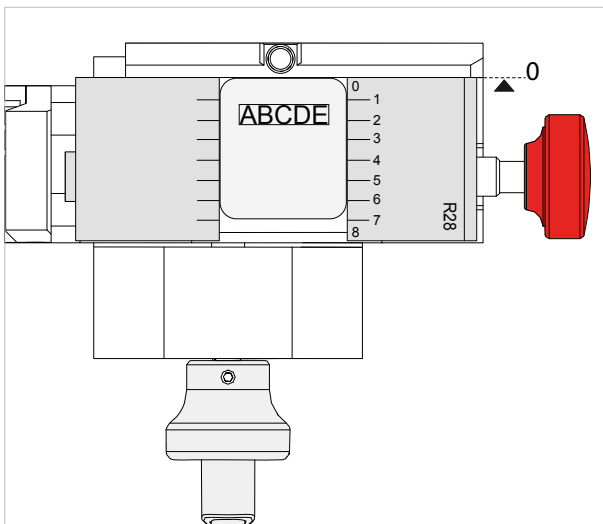


Fig. 23

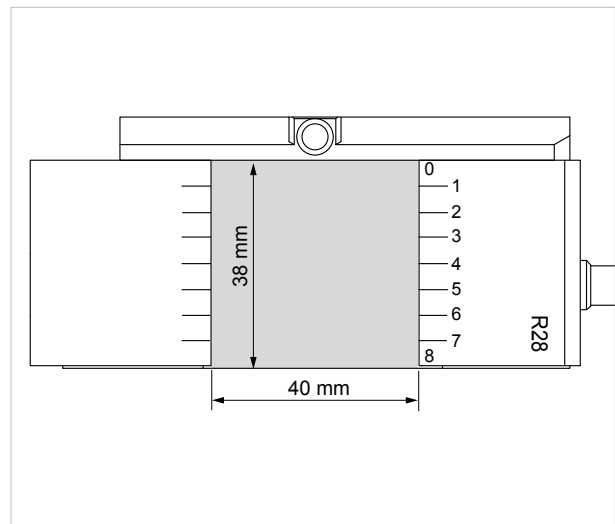


Fig. 24

4.3 FITTING THE CLAMP TO THE MACHINE

To remove the clamp:

- loosen the handle (A9) (Fig. 25) and pull the clamp out of the dovetail guide.

To fit the clamp to the machine:

- insert the clamp into the dovetail guide, push all the way in and lock by turning the handle (A9).

The instructions refer exclusively to the clamp provided. To use any optional clamps follow the instructions provided with them.

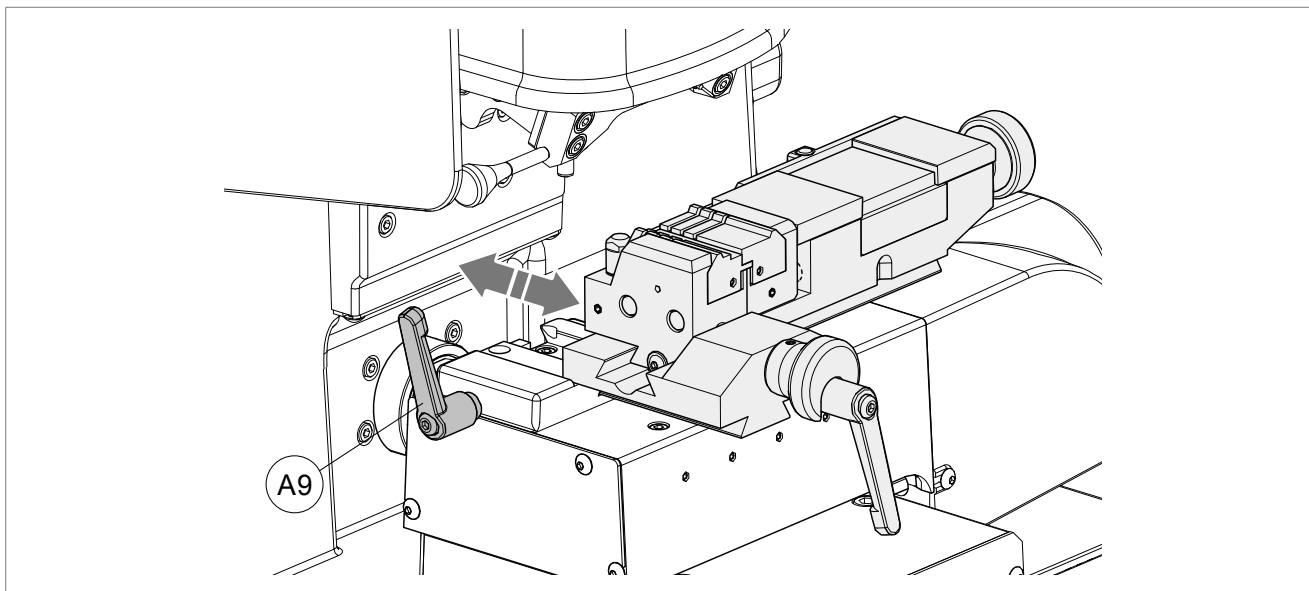


Fig. 25

4.4 USING THE CUTTERS

- The cutter provided, with code “W101”, is suitable for TRACK type keys (for certain SSN only).
- The cutter provided, with code “W146”, is used for ENGRAVING only.
- The cutter provided, with code “W500”, is an “alternative” tool which can replace certain special cutters for keys with dimple cuts (see ch.).

ATTENTION:

- **The right cutter to use for an SSN in use will be shown on the display. The type of cutter to fit is indicated by the letter W (hard metal). If the operator does not have the required tool s/he may select a different one:**
 - indicated by the letter W (hard metal) (see Ch.6.5.2).
 - indicated by the letter H (HSS) if included in the Silca database (see Ch.6.12.2).
- **It is good practice to set the cutter material for your cutters. In this way, when the cutter is needed by the SSN in use, cutter spindle speed will be appropriate.**
- **To achieve OPTIMUM results on keys, use hard metal cutters (W).**
- **If you need to use HSS cutters (H), to achieve optimum results use only two-bladed ones.**

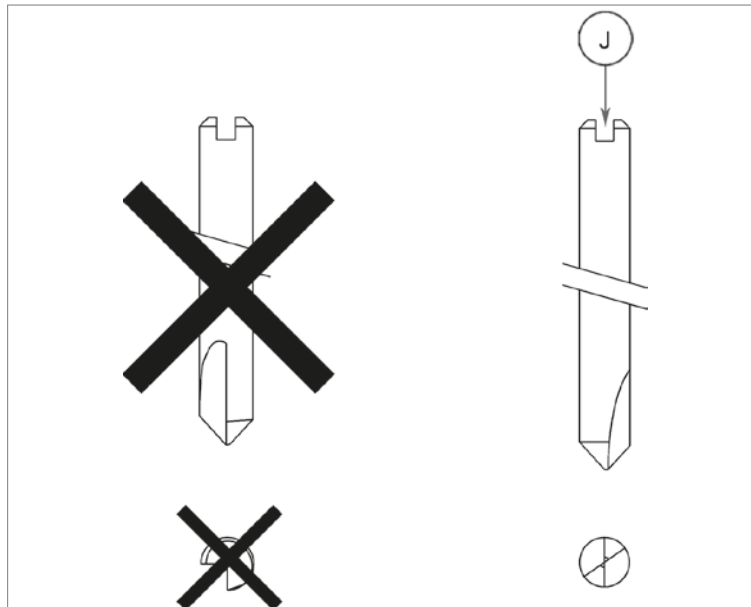


Fig. 26

4.5 CHANGING THE CUTTER/DECODER

To remove a decoder or cutter from the spindle, raise the safety shield and proceed as follows:

- 1) Hold the cutter or decoder with one hand.
- 2) To release the tool move the lever (A) towards the operator until it comes to a stop.
- 3) Remove the tool.

To fit a tool, raise the safety shield and proceed as follows:

- CUTTER: fit the tool into the spindle; push all the way in and turn until it clicks into place on the anti-rotation stop in the groove (J) on the tool (Fig. 26).
- DECODER: fit the tool into the spindle and push all the way in.

Hold the tool in place with one hand and with the other move the lever (A) towards the back of the machine to lock the tool.

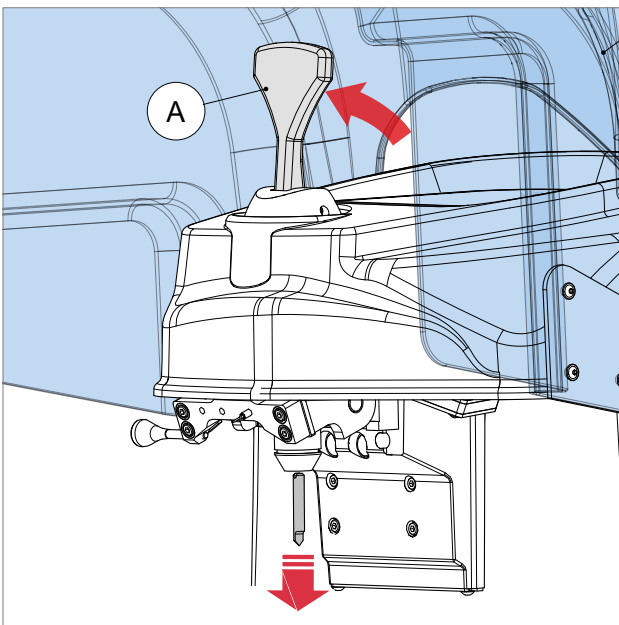


Fig. 27

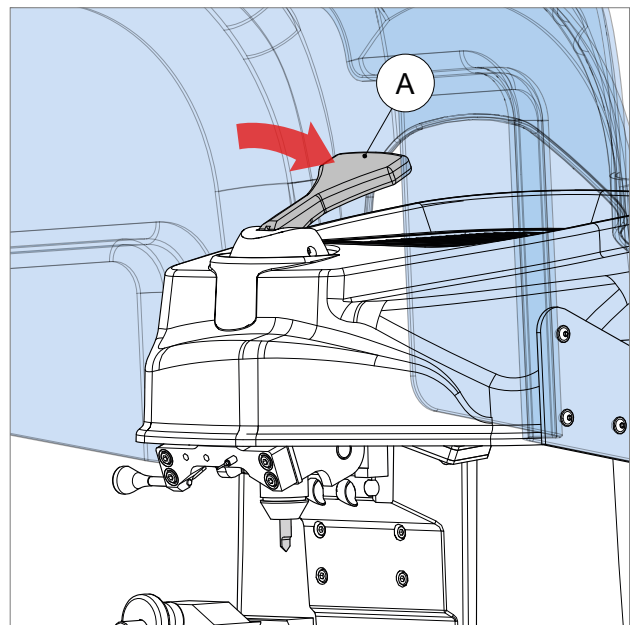


Fig. 28

4.6 USING THE USB PEN



ATTENTION: the USB pen can be removed and/or inserted in its holder on the key-cutting machine in one of the following ways:

PROCEDURE:

- 1) With the key-cutting machine off the USB PEN can be removed or inserted.
- 2) With the key-cutting machine on the USB PEN must be disabled. This operation is possible from the main menu (with numerical key 2) or from the sub-menus where a USB pen icon appears (function button). USB pen status goes to OFF and the luminous LED on the pen goes off.

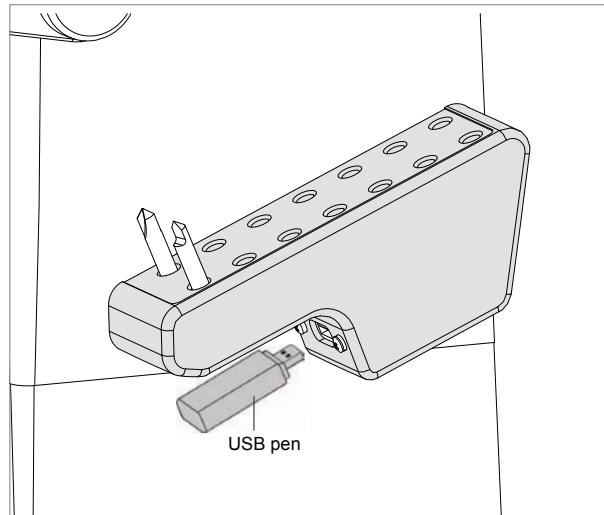


Fig. 29

5 TRIAX PRO VERSION UTP



The Triax Pro UTP (Unlimited Token Plan) is a “timed use” key-cutting machine.

On cutting the first key a free one month “UTP” is automatically activated. At the end of that period a message appears: the customer has another 30 days in which to purchase a UTP package. At the end of the period (1 month free + 30 days) the machine can no longer be used to cut keys (it is operative for decoding and engraving only). To continue using all the machine functions contact a Silca distributor to purchase another UTP package (Ch.6.14.2 UTP SETTINGS).

“**UTP (Unlimited Token Plan)**” is a special “timed digital token” that allows the machine to be used freely (unlimited number of keys can be cut) for a given period (up to 31 December of the calendar year in progress).

- **When the UTP package has expired** 30 days of Extratoken are available before the key-cutting function is blocked. (Ch. 6.14.2 UTP SETTINGS).
- **After purchasing a new UTP package** download it from the Internet by means of the “Silca Remote Service” program (SRS) (Ch.6.11.1 DOWNLOAD THE UTP PACKAGE).

6 OPERATING GUIDE

The Operating Guide explains how to use the TRIAX PRO without the aid of a personal computer. The operations are explained step by step so that the key-cutting machine can be used in manual mode. The PC programs that can be connected to the key-cutting machine can transmit the data needed to perform cutting or engraving operations. PC programs eliminate manual execution of some functions and skip some of the Operating Guide video screens once the data have been transmitted.

6.1 MACHINE KEYPAD AND FUNCTION BUTTONS

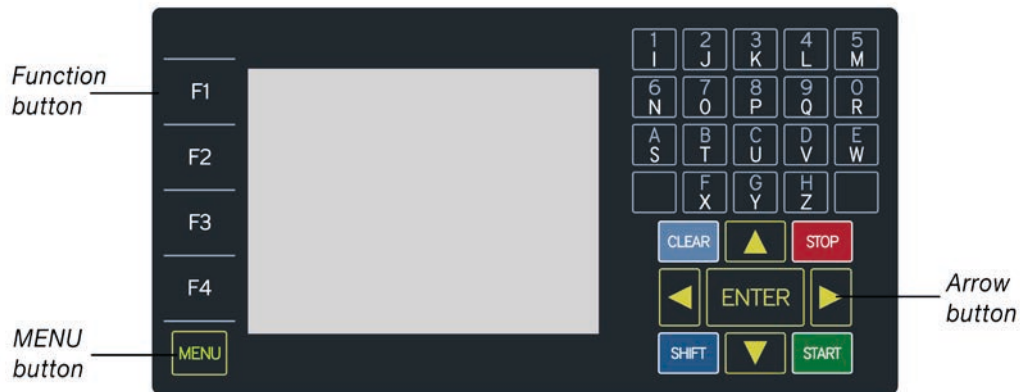


Fig. 30

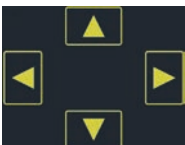
The MENU button shows a list of the main functions:



MENU: is always active from any window



Function keys: select the on-screen options



ARROW keys (right/left/up/down: used to move the pointer (navigation) in the on-screen fields



CLEAR: used to delete a single character



SHIFT+ CLEAR: pressed together to delete an entire row



SHIFT+ENTER: pressed together to insert a digit space



START: starts the procedure




STOP: cancels the operation and/or goes back to previous menu.

6.2 PRELIMINARY OPERATIONS

Procedure:

- 1) Place the key-cutting machine on a work bench.
- 2) Connect the power lead to the mains (Ch.3.3).
- 3) Make sure the emergency button (K - Fig. 6) is disabled.
- 4) Check that the USB PEN is in its special holder.
- 5) Turn the machine on with the master switch (Z - Fig. 6) on the back.
 - to check or edit the machine parameters, go to the menu (Ch.6.9).
 - set the required measuring unit (default is MILLIMETRES)
- 6) When the machine is switched on the following MAIN SCREEN appears on the display.

The main screen shows the Function icons as well as the following data:

- **Name of key-cutting machine**
- **Machine serial number**
- **SW version: machine program version**
- **DB version: Series database version on machine**
- **MENU wording (flashing)**
- **Date**
- **Time**
-  **Machine in UTP mode (Unlimited Token Plan)**



GREEN: days of use exceed the minimum warning point set in the Options=> UTP menu (Ch.6.14.2)



YELLOW: days of use are below the minimum warning point set in the Options=> UTP menu (Ch.6.14.2)



RED: days of use have expired or are about to expire (Ch.6.14.2)



-> OFF Press button 2 to disable the USB PEN

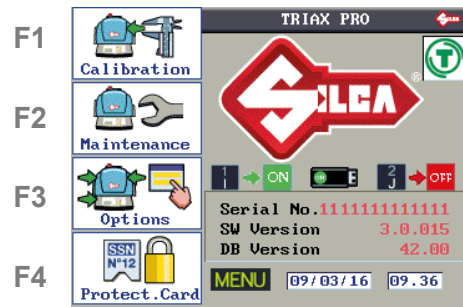


-> ON Press button 1 to enable the USB PEN

MAIN FUNCTIONS OF MENU



SEARCHES
PC QUEUE
ENGRAVING
UPDATE



CALIBRATION
MAINTENANCE
OPTIONS
PROTECTED SSN



Press the MENU button to view the whole list of the main functions in the machine program.

6.3 SEARCHES

This function is the starting point for cutting keys and allows the operator to search for the key and/or system to be cut.

Select one of the search fields and enter a known parameter, or select the system to be cut from a list of favorite data cards created by the user.

F1 to access the “Search” menu.



F1 to change the search field (possible search modes).

- SSN
- Make
- Code
- Key blank
- Description



F2 to enter:

“List of Favorite Series”.

A list of frequently used series from which to make a rapid choice.

This list must be created by the user.
(see Ch.6.5.6)



F3 to enable (ON) or disable (OFF) the USB PEN.

Note: Searches by code tables (Silca or User) are possible only with the USB PEN inserted and enabled.

(see Ch.6.13.9)

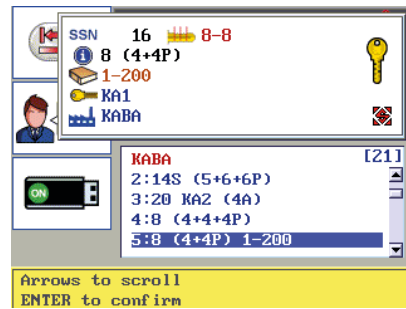
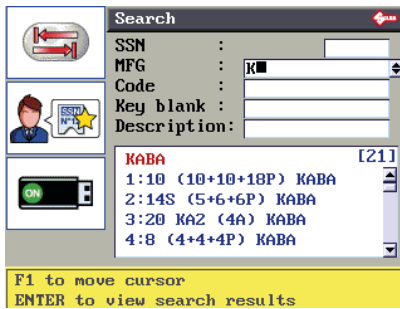


Description of graphics in Table 2

6.3.1 SEARCH BY MAKE

Example: enter KABA in the make field (the initial K will do) and press ENTER.

Scroll the list of systems with the arrow keys (up and down) to highlight the one required.



Description of graphics in Table 2

[20] = number of KABA systems known to Silca and included in the machine database.

5:8(4+4P)1-200 = description of series provided by SILCA

The top window shows other information about the selected series.
Press ENTER to confirm and enter in the required Lock System (SSN).

6.3.2 SEARCH BY CODE, KEY BLANK AND DESCRIPTION

Enter the known parameter into the relative field and press ENTER.
A list will appear; scroll with the arrow keys until you select the required series.
Press ENTER to enter the Lock System (SSN).

6.3.3 SEARCH BY SILCA SERIAL NUMBER (SSN)

Enter the known SSN into the relative field and press ENTER.

6.4 LOCK SYSTEM FUNCTIONS (SSN)

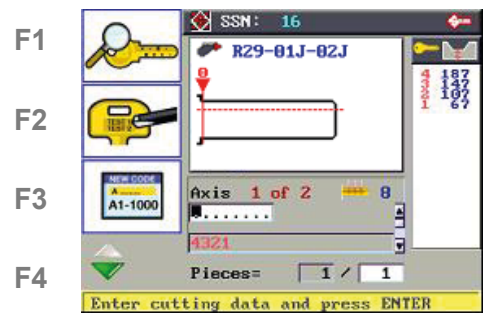
From a search:

- 1) Highlight the required system.
- 2) Press ENTER to confirm and enter into the selected Lock System (SSN).

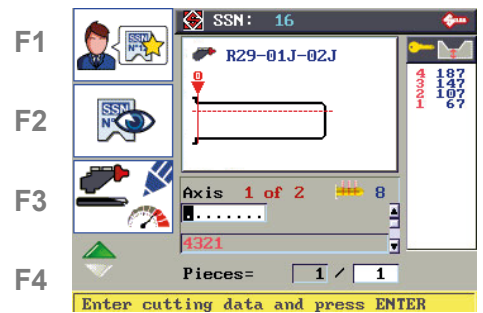


Description graphics in Table 2

- F1 Key decoding function.
- F2 Engraving function.
- F3 Indirect Code Entry (if applicable).
- F4 to access other Functions (see Ch.6.5)



- F1 to add the system used to the Favorite Series List.
- F2 to view the key parameters in relation to the current axis.
- F3 to access the User Parameters menu.



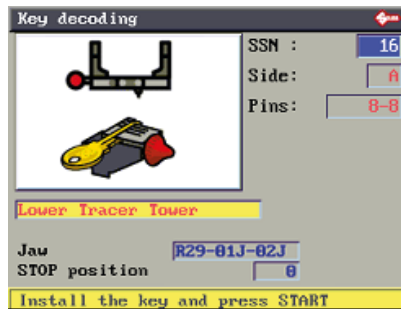
6.4.1 KEY DECODING

From the SERACH function, select the SSN to use and press Button **F1** for “Key decoding”.



ATTENTION: IT IS NOT POSSIBLE to decode anodized aluminium keys, plastic keys or any other key that does not conduct electricity! For keys with these characteristics enter the direct cuts or the indirect code if the SSN in use allows this.

Below are descriptions of all the stages necessary for decoding a key.



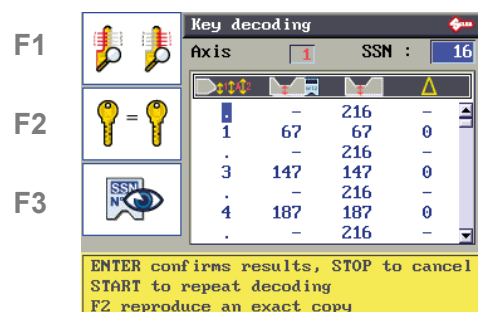
INDICATIONS on display

- SSN:** Silca Serial number associated to type of key
- Side:** Side of key to be decoded
- Pins:** Maximum number of cutting positions
- Lower Tracer Tower** The operator must lower the Tracer Tower for decoding
- Clamp:** **R29-01J-02J** clamp to use for securing keys
- STOP position** (possible references 0–1–2–3) for type of key in use.
Clean the clamp.
Place the original key in the clamp with the key stop up against the STOP position.
Lower the shield and press START.

When decoding is finished the display will show a new window with 4 columns giving, from left to right:

FUNCTION BUTTONS after Decoding:

- F1 to scroll the key axes and view the values obtained by decoding.
- F2 to cut the key using the measurements read (decoded). In this case you will have an exact copy of the original key.
- F3 views the cutting symbols allowed by the SSN in question, with relative depths.



Direct cutting symbol read, which may be alphanumeric (from top to bottom values decoded from the head to the tip). The symbol can be edited by pressing the corresponding key.



Theoretical depth values for the SSN.



Depth values read on the key during decoding



Difference found between the theoretical values and those read, expressed in hundredths of a millimetre.



Indicates that the depth read is higher or lower than the theoretical value

Press ENTER to confirm and go on to cutting the key.

6.4.2 KEY CUTTING

A key is cut through one of these functions:

- 1) Key decoding
- 2) Entering cuts
- 3) Search by indirect code

6.4.2.1 KEY CUTTING BY DECODING

From the Search Menu in use press Button **F1** for “Key decoding” (see Ch.6.4.1).

After confirmation of decoding a new window will appear with indications for the cutting stages.

F1 for Manual adjustments.

F2 for User parameters.

F3 for Code entry.

F4 views the values of Key decoding

(see Ch.6.5)



INDICATIONS on Display

SSN:	Silca Serial Number associated to type of key.
Clamp:	Clamp R29-01J-02J to use for securing the key.
STOP position:	STOP 0 for the current type of key.
Side and axis:	Side and axis to be cut.
Cuts:	Combination of cuts on the side and axis selected.
Cutter:	Cutter to use for cutting the side and axis selected.
Pieces:	Number of keys to be cut.

NOTE: if the cutter and/or clamp required are not available, press F2 to check whether the selected cutting system provides other possibilities.

Key cutting PROCEDURE

- Raise the safety shield.
- Remove the original key.
- Raise the Tracer Tower.
- Fit the required cutter.
- Clean the calibration plate and clamp and fit the key blank in line with the STOP indicated.
- Lower the safety shield.
- Enter the number of pieces (keys) to be cut.
- Press START to begin cutting.

When the first side has been cut, the display will ask for the key to be turned over before continuing. Pay attention to the side required.

When you have carried out the instructions, press START to continue.

6.4.2.2 KEY CUTTING BY ENTERING CUTS

From the Search Menu in use enter the cuts into the cut field (see Table 1). Only the depth symbols allowed by the SSN in use will be valid.

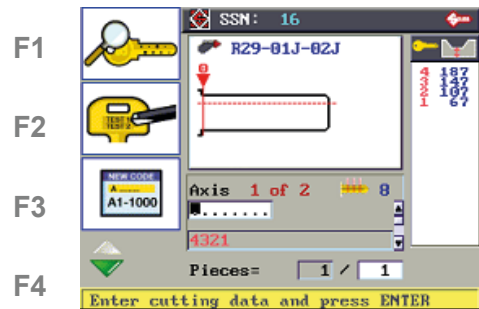
F1 Key decoding function

F2 Engraving function

F3 Code entry function

F4 to access other function buttons

(see Ch.6.5)



INDICATIONS on Display

- SSN:** Silca Serial Number associated to type of key.
- Clamp:** Clamp **R29-01J-02J** to use for securing the key.
- Axis:** Cutting axis viewed
- Positions of cuts:** Maximum number of positions of cuts for the axis shown.
- Cuts:** (.....) field for entering cuts for the axis shown
- Depth symbols and values:** Symbols for depths admitted with relative values (1/100 mm) for the axis shown.
- Pieces:** Number of keys to cut.

PROCEDURE for entering cuts

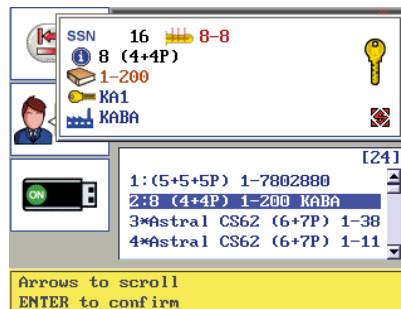
With the cursor in the cut field, use:
 L/H-R/H arrow key to skip a position.
 Up-down arrow key to change cutting axis.
 CLEAR button to delete the value entered (cursor to the far left deletes the whole field; cursor to the far right deletes the last value entered only; cursor in intermediate position deletes the value it is on).
 After entering the cuts for all the axes included in the SSN in use, set the number of pieces (keys to cut).
 Press ENTER to continue.

INDICATIONS on display and key-cutting PROCEDURE

For the full cutting flow see paragraph 6.4.2.1.

6.4.2.3 KEY CUTTING BY CODE

From the Search menu enter the indirect cutting code into the field and press ENTER.



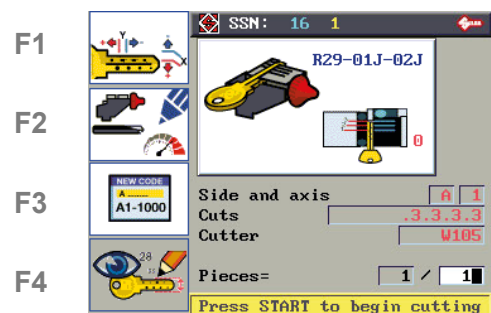
Use the up-down arrow keys to scroll the list, select the required series and press ENTER.

F1 for Manual adjustments

F2 for User parameters

F3 for Code entry

(see Ch. 6.5)



INDICATIONS on display and key-cutting PROCEDURE

The code in use is shown next to the window header: “SSN: 16 1 ”

At the end of the cutting operation press F3 to enter a new code.

For the full cutting flow see paragraph 6.4.2.1

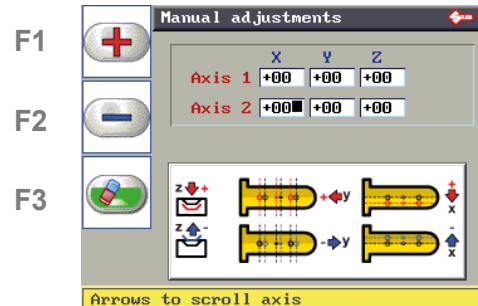
6.5 FUNCTION BUTTONS (CUTTING FLOW)

6.5.1 MANUAL ADJUSTMENTS



This function is used to make adjustments to the SSN in use.

- F1 for positive values (+).
- F2 for negative values (-).
- F3 to delete the edited adjustments.
- R/h arrow key to move from field to field (X; Y; Z)
- Up-down arrow keys to move from axis to axis (axis 1 - axis 2 - ...)



- Positive value of X: moves cut to right of axis.
- Negative value of X: moves cut to left of axis.
- Positive value of Y: takes cut closer to STOP 0.
- Negative value of Y: takes cut away from STOP 0.
- Positive value of Z: makes cut deeper.
- Negative value of Z: makes cut less deep.
- Adjustment values for X, Y, Z (-30 to +30 hundredths of mm)..



NOTIFICATION OF VARIATION

This flashing warning symbol appears inside the Manual Adjustment icon only when manual adjustments have been entered.

6.5.2 USER PARAMETERS



This function is used to select a clamp or cutter alternative to those provided by Silca. It is also used to vary working speed (option recommended for OEM users).

Not all Silca Serial Numbers (SSN) will show these parameters.

Change cutting speed

To change cutting speed and consequently the number of spindle revs, set a reduction or increase percentage with keys F1 and F2.

Cutting speed		
*Cutting speed	600	+00%
Spindle speed (rpm)	13000	
For example, a 10% reduction gives:		
	540	-10%
	14300	

(*) variation in the advancing speed of the carriages during the key cutting stage only.

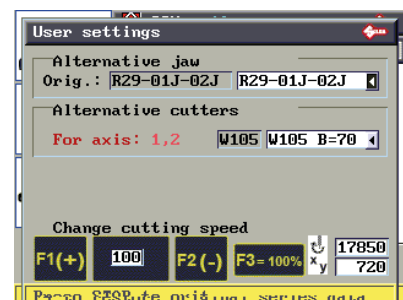
Key F1: to increase the percentage value

Key F2: to decrease the percentage value

Key F3: to reset the Silca default values

Key F4: to reset the User Parameters for clamps and cutters

This function assigns a value predefined by Silca to all the User Parameters in the series.



Spindle speed



Carriage movement speed

Note: OEM users see also Ch.6.14.6 OEM MODE [PAGE 5/5].



NOTIFICATION OF VARIATION.

This flashing warning symbol appears on the display only after a User Parameter has been edited.

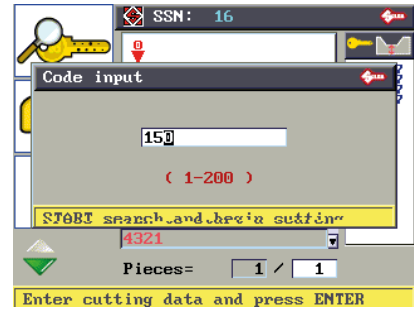
6.5.3 CODE ENTERING



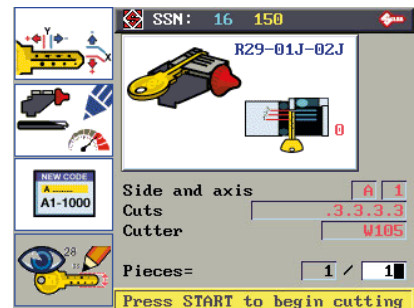
This function is used to enter an indirect cutting code (if there is a code table available for the system in use).

Enter the cutting code into the relative field.

ENTER to start search.

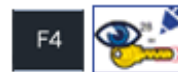


START to begin cutting.



When cutting is complete press F3 to enter a new code.

6.5.4 DECODING DATA



Function active after decoding. Shows the data obtained from the last decoding operation.

6.5.5 ENGRAVING FROM CURRENT SSN



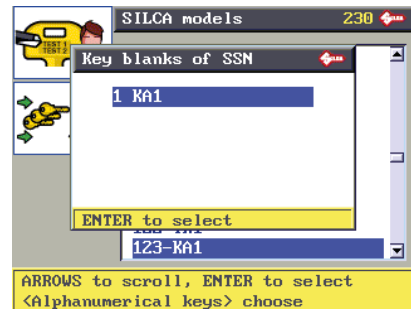
This function is used to go to the engraving mode. If an engraving template has been associated to the current SSN it will appear as selected.

F1 to go from Silca templates to User templates.

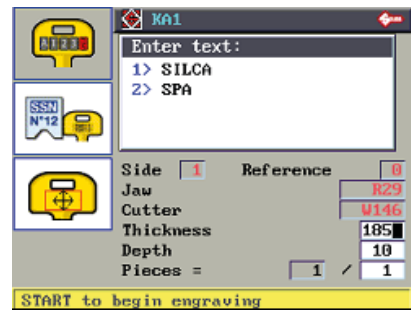
F2 to highlight the SILCA key blanks associated to the SSN system in use.



View SILCA key blanks that can be used for engraving and are associated to the SSN in use.



ENTER to access the engraving function (see ENGRAVING).



F2 to associate the current engraving template to the SSN in use.

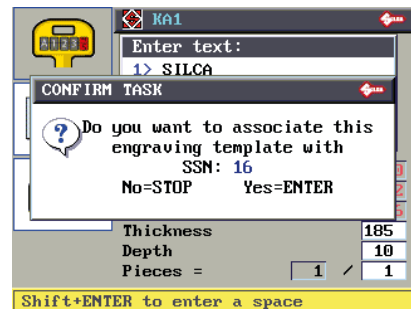
The same button can also be used to disconnect the current engraving template from the SSN in use.

F1

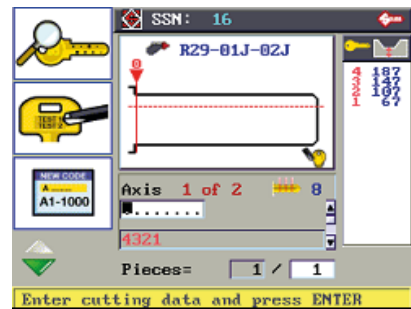
F2

F3

F4



A special icon (🔑) indicates that an engraving template has been associated to the current SSN.



The advantage of this association:

F4 to proceed with engraving the associated template after completing the key cutting cycle.



6.5.6 FAVORITE SERIES LIST UPDATE

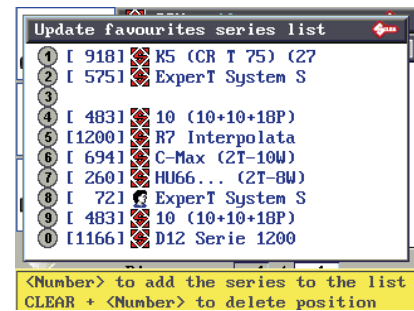
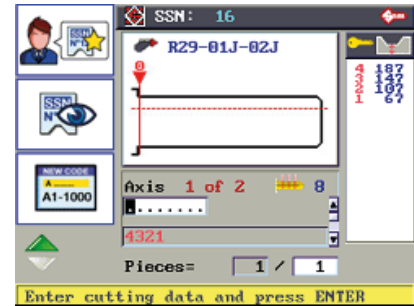
From the system in use access can be gained to the function Favorite series list update using F1.

The Favorite Series list is shown.
The SSN in use can be added to the list.

Numerical buttons (1 to 0) to enter the series in the list.
CLEAR + numerical buttons (1 to 0) to eliminate a Series from the list.



F1
F2
F3
F4



6.5.7 VIEW SERIES AXIS PARAMETERS

From the system in use access can be gained to the function with F2.

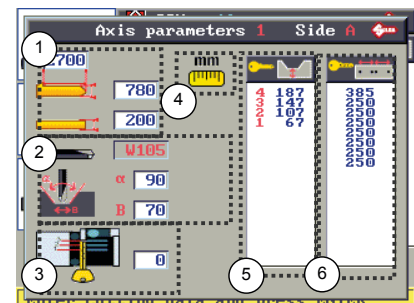
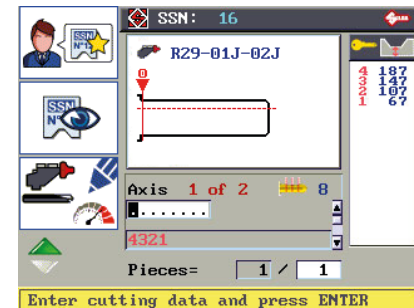
The parameters relative to the cuts in the SSN in use are shown.

Available:

1. Parameters referring to the key (stem length/width and thickness).
2. Name of cutter to use with angle and base of cut parameters.
3. STOP for key in clamp.
4. Measuring unit in use.
5. Depth symbols and values
6. Values for cut spacing (pitches)



F1
F2
F3
F4



6.6 SPECIAL CASES

6.6.1 CUTTING NOT ALLOWED

Some Serial Numbers do not allow certain combinations of cuts. These can be combinations:

- **Entered by the operator:**

this can happen only when there are no original codes or Silca tables and cuts are entered with depths that even if included in the data card values are not compatible in the order given, as they do not agree with the manufacturer's original parameters.

- **Read by the decoding procedure:**

In this case the SSN selected for decoding is not compatible with the decoded key.

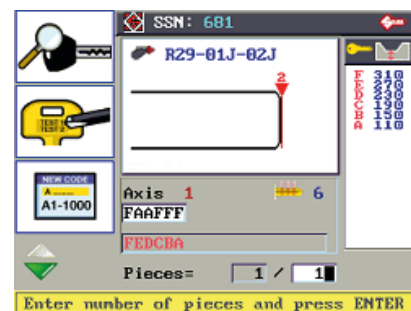
Example:

Enter SSN (681)
Press ENTER.
Enter cutting data (FAAFFF).

Press ENTER

The Silca software calculates the validity of the data entered or decoded.
If there is an inconsistency the following message appears:

**COMBINATION
NOT ALLOWED**



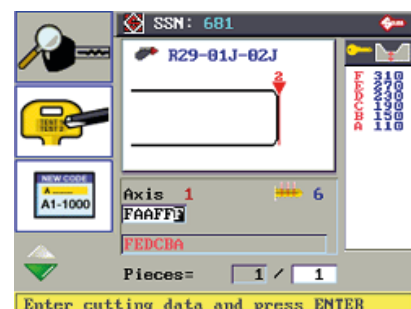
6.6.2 DECODING NOT ALLOWED

NOTE: IT IS NOT POSSIBLE to decode anodized aluminium keys, plastic keys or any other key that does not conduct electricity!

The decoding function is not enabled for some series. The icon on the display is not active.

Why?

- Agreement between manufacturer and Silca to reproduce exclusively by code.
- To ensure the machine and tools work perfectly.
- Critical decoding software parameters.



6.6.3 SEARCH BY SSN NOT ALLOWED

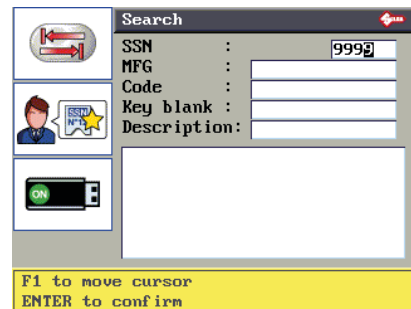
In the SEARCH BY SSN function, enter the number and press ENTER. The following warning message may appear.



SSN not in the archive !

The message may appear when:

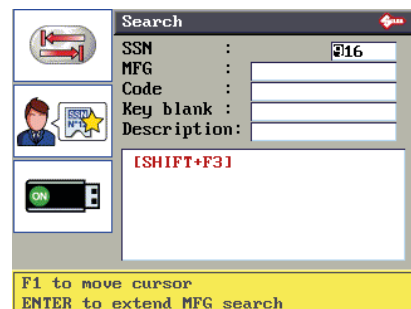
1. The SSN entered is not in the Silca archive.



2. The SSN entered is in the Silca archive but has not been enabled by the User.

SHIFT+F3 to enable search by all makes.

To enable only the SSN required (see Ch.6.14.4)



6.6.4 LIMITED ACCESS TO DATA (PROTECTED SYSTEMS)

Silca has limited access to some of the SSNs in the database (relating to data cards, series or code tables) in accordance with agreements with certain manufacturers.

The limits are applied to:

- **DATA CARD**
- **SERIES (SSN)**
- **CODE TABLES**

An SSN is protected if the symbol (*) appears on the description line.

From the Search menu select the line involved:

If a red padlock is shown the SSN is protected in all functions.

If a red padlock and book are shown the SSN is protected regarding cutting by indirect code and enabled for the decoding function.

If a green padlock appears the SSN is enabled for all the functions.

Press ENTER to continue.

To access protected data:

1. apply to the manufacturer for authorization.
2. communicate to Silca:

- **Key-cutting machine serial number XXXXXXXXXXXXX**

Read the serial number on the ID plate on the back of the machine or on the initial display.

- **Machine ID XXXXX**

Given in the password box.

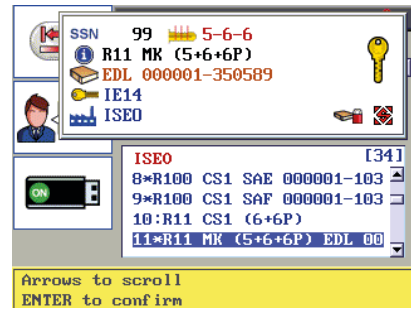
- **ENABLING Code XXXXXXXXXXXX**

Shown ONLY when access is sought to a protected SSN.

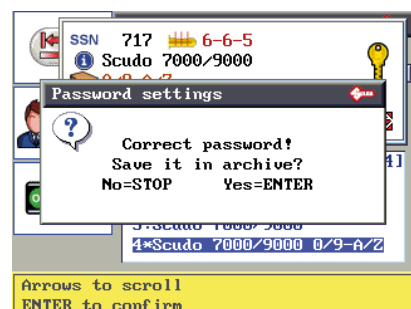
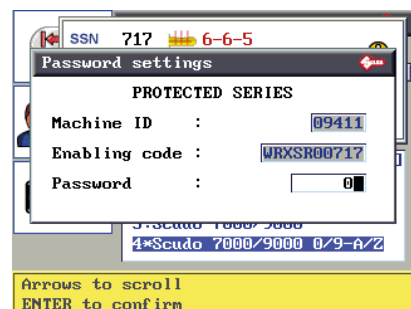
Silca will issue a Password to enter into the relative field to enable cutting of the protected system.

When the password has been entered successfully:

- ENTER to save the password in the machine memory.
Next time the protected data card is used the password will not be required.
- STOP if you do not want to save the password in the machine memory. The SSN selected is enabled for the operation in progress. To access the data card in future a password will be required.



See Table 2 for description of graphics



6.7 PC QUEUE FUNCTION

THIS FUNCTION IS AVAILABLE ONLY WHEN USING THE MACHINE CONNECTED TO A PC

The TRIAX PRO key-cutting machine can be used with the SILCA KEY PROGRAMS program. This program can be used to send both cutting and engraving jobs.

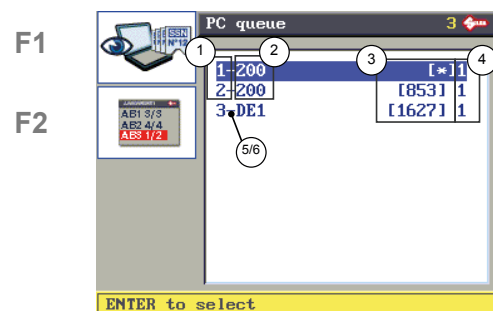
The jobs transmitted by the PC are read only and cannot be edited manually. Each line transmitted corresponds to a cutting (or engraving) step for one or more keys.

For every cutting operation transmitted the number of pieces to work is set. When cutting is finished for the number of set pieces a “+” sign indicates that the cycle is over.

From the initial display press F2 to enable the PC QUEUE function.

F1 to view the data for the selected job (key blank and/or customer notes).

F2 to select the first job in the queue not yet started or not fully completed due to an interruption.



The data received from the PC are presented in the form of a list, for example:

1. number of jobs received
2. cutting codes received /Silca engraving template
3. [*] engraving jobs or a number indicating the SSN
4. number of pieces to do
5. “+” indicates that the job HAS BEEN COMPLETED.
6. “-” indicates that the job HAS NOT BEEN COMPLETED.

PROCEDURE

- 1) select the job to be done and press ENTER.
- 2) see the relevant chapters (cutting and engraving) for the sequence of operations.

Cutting data received from the PC program cannot be edited manually.

Engraving data received from the PC program cannot be edited with the exception of:

- engraving depth
- key thickness.

In any case editing is not saved.

A job queue can be interrupted or the machine switched off. When starting again go to the “PC Queue” function to retrieve all the data in the queue (including the piece counter for each operation.

6.8 ENGRAVING

The TRIAX PRO key-cutting machine can use the **R28** clamp and W146 cutter to engrave texts on various items, such as the head or stem of keys (flat, laser, dimple) or medals, plates, etc.

The items can be in several types of material: aluminium, brass, steel, etc.

Duration of the cutter depends on the hardness of the material to be engraved and the size of the text (number of lines) (see indicative table).

* the keys and medals must be metal.

Engraving on other materials (wood, paper, plastic, ceramics, etc.) is not allowed

* the maximum dimensions of the part to be engraved are: 38x40 mm (see Fig. 24)

6.8.1 ENGRAVING TEMPLATE PARAMETERS

The key-cutting machine can be used without a PC, but with certain limitations.

To make use of all the potential available it is advisable to use the special function included in the Triax Engraving Program (see machine accessories) and Silca Key Programs.

Engraving templates are made up of the parameters defining an engraving job:

No. of lines	Max 8
Text alignment	LH - Centred - RH
Character height	1.5 mm to 10 mm (0,059" to 0,394")
Font	One only
Special functions	2 self-increasing functions (counters)
Use of TOKENS with SKP and SSI	T0 - T7
Possibility to engrave 2 sides of the key using the same template (front-back)	Yes
Key thickness	1 to 4 mm (0,039" to 0,157")
Engraving depth	5 to 30 hundredths of mm (0,002" to 0,012")
Clamp	From those available (R28,...)
Cutter	From those available (146W, ...)

6.8.2 FUNCTIONS FOR AN ENGRAVING TEMPLATE

There are two types of templates:

- **Templates predefined by SILCA**
- **User templates**

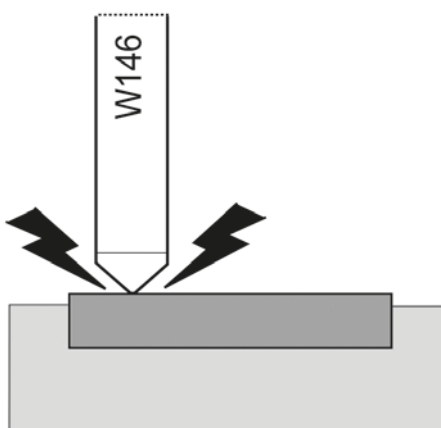
Function	With PC program	With TRIAX alone
Use of predefined templates, i.e. over 200 templates relating to SILCA key blanks ready for use. The following can be edited but not saved in the machine memory: - contents of the lines of text - material thickness - engraving depth	X	X
Creation of User templates	X	
Use of User templates	X	X Transferred by SKP to a special archive on the machine
Editing user templates	X	X Limited to: - contents of lines of text - material thickness - engraving depth - position of lines

6.8.2.1 ENGRAVING DEPTH: METHOD'

METHOD FOR MAKING AN ENGRAVING AT THE RIGHT DEPTH:

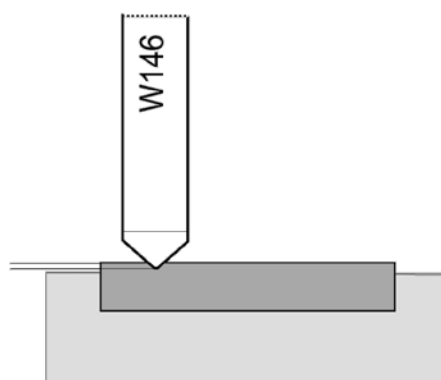
- A - for material whose thickness can be read by electric contact the cutter stops at the measurement read (by means of the electric contact function) on the key close to the first line of text to be engraved, then descends by a distance given in the set "depth" parameter.
- B - for material whose thickness **CANNOT** be read by electric contact the cutter stops at the measurement indicated by the "thickness" parameter for the engraving template, then descends by a distance given in the set "depth" parameter.

A - ELECTRIC CONTACT POSSIBLE on material to be engraved



NOTE: *is better to set the thickness value slightly lower than nominal (read by a centesimal gauge) to assist reading the measurement by electric contact. Example: if the item to engrave has a thickness of 2.00 mm (200 hundredths of mm) it is better to set a thickness value of 195 hundredths of millimetre.*

B - NO ELECTRIC CONTACT with the material to be engraved



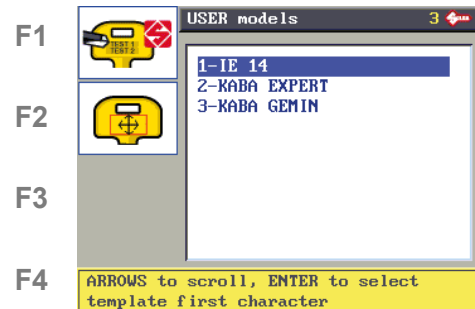
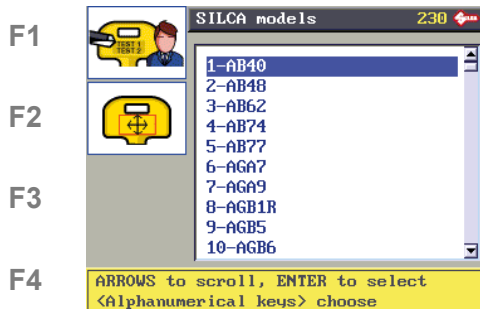
NOTE: *the thickness setting must be as precise as possible to achieve good engraving. Read the thickness of the item to be engraved with a centesimal gauge and if necessary edit the thickness setting rather than edit the engraving depth.*

6.8.3 ENGRAVING PROCEDURE

From the initial screen press F3 to enable the function.

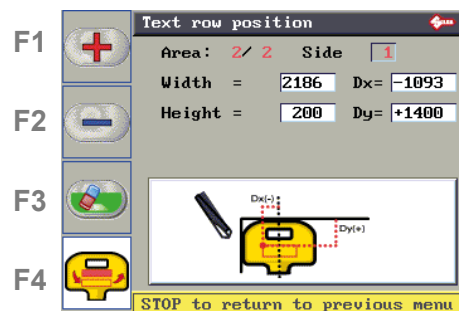
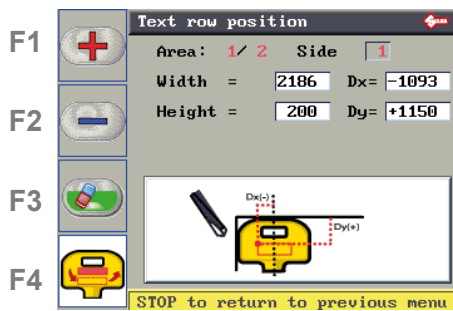
Button F1 (press once or twice):

- List of SILCA templates (installed on machine, only 2 lines can be engraved).
- List of USER templates. User templates can be created only by PC with the “Triax Engraving Program” provided, then transferred to the machine. This list includes only templates created by the User.



Button F2 views the position and size of the text area on the selected template.

The values shown cannot be edited for SILCA templates.



For user templates only the following values can be edited:

- Dx= X coordinate of the top L/h vertex (see machine display above).
- Dy= Y coordinate of the top L/h vertex (see machine display above).
- Width=width of line (or area) of text.
- Height=height of the line (or area) of text.

F1 increases the value in the selected field

F2 decreases the value in the selected field

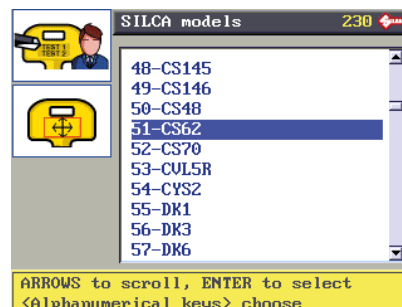
F3 deletes the value in the selected field

F4 to go from viewing one area (or line of text) to another (when there are at least 2).

6.8.4 ENGRAVING: SILCA TEMPLATES

From the list of Silca templates press a button with a letter of the alphabet to move selection to the templates whose names begin with that letter.

Shift + arrow keys to scroll the list quickly.
 ENTER to select the template.



Example:

Name of template: CS62
 Text to enter: 1> SILCA
 2> 2010

Enter the text only with alphanumerical keys.
 Up and down arrow keys to move the cursor between the 2 lines.
 Press ENTER.



- Side:** front(1)/back(2) engraving side
- Reference:** reference for key engraving (0)
- Clamp** name of clamp to use
- Cutter** name of cutter to use
- Thickness*:** key or medal thickness (100/mm)
- Depth*:** engraving depth (100/mm)
- Pieces*:** number of pieces to do

In the Thickness, Depth and Pieces (jobs) fields the value can be edited. Pay attention to the instructions in Ch. 6.8.2.1 ENGRAVING DEPTH: METHOD'
 The data can be edited but not saved.

Prepare the key-cutting machine for engraving in the way described on the display.
 Press START to begin engraving.

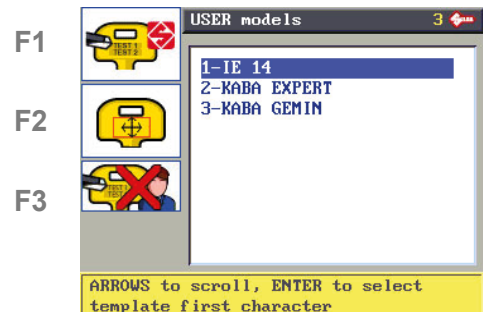
6.8.5 ENGRAVING: USER TEMPLATES

The key-cutting machine can be used without a PC but with limitations. To use all the potential available it is advisable to use the special function included in the Triax Engraving Program (provided with the machine) and Silca Key Programs.

Shift + arrow keys to scroll the list quickly.

ENTER to select the template.

F3 to delete the selected user model.



Example:

Name of template: IE 14

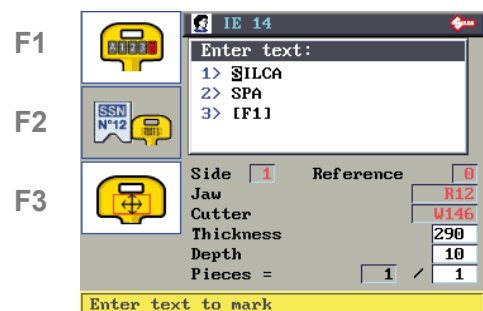
Text to enter: 1> SILCA

2> SPA

3> [F1]

F1 for counter function (3>[F1]) (see Ch.6.8.5.1-a)

NOTE: use only alphanumerical keys to edit the text.



Up and down arrow keys to move the cursor between the 3 lines.
Press ENTER.

Side: front(1)/back(2) engraving side

Reference: reference for key engraving (0)

Clamp name of clamp to use

Cutter name of cutter to use

Thickness*: key or medal thickness (100/mm)

Depth*: engraving depth (100/mm)

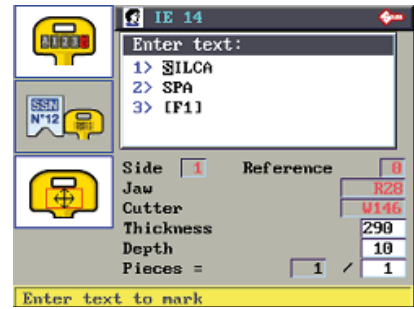
Pieces*: number of pieces to be done.

In the Thickness, Depth and Pieces fields the value can be edited. Pay attention to the instructions in Ch.6.8.2.1 ENGRAVING DEPTH: METHOD'.

The data can be edited but not saved.

6.8.5.1-a COUNTER FUNCTION

F1 for counter function (3>[F1]): the values can be set when the cursor is in the field for the counter function.



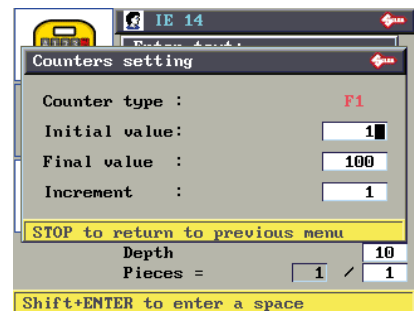
Example:

Type of counter: F 1

Initial value: (1), initial value of counter.

Final value: (100), finale value of counter.

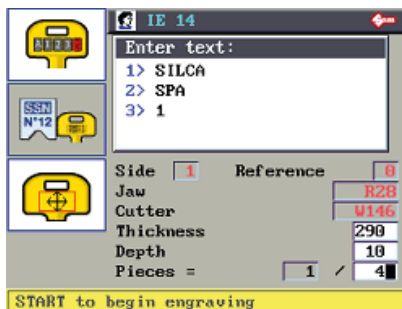
Increase: (1), step increase of counter.



Check all the counter values then press STOP.

Prepare the key-cutting machine for engraving in the way described on the display.

Press START to begin engraving.



Example:

With the Pieces value set above 1 the third line of the text will show on the counter the numerical value to engrave.

Example:

In the next jobs the numerical value to engrave on the third line is increased by the amount set in the counter function.

6.9 MACHINE DATA UPDATE

This function is used to update machine data with a USB PEN.

In this way the operator saves time for this operation.

Machine data can be updated with a USB PEN if it is inserted and on (ON status).

The following can be updated:

- Machine software
- USER Series
- User engraving templates

Scroll with the up-down arrow keys to select the required field.

6.9.1 Machine software

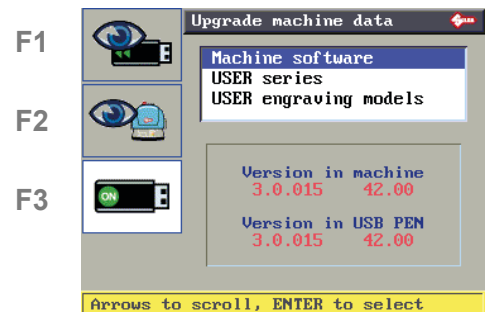
Check that the version on the USB PEN is more up-to-date than the version on the machine.

Press ENTER.

When the machine is being updated the display will go off for a few seconds and then come back on.

Wait until data downloading is finished.

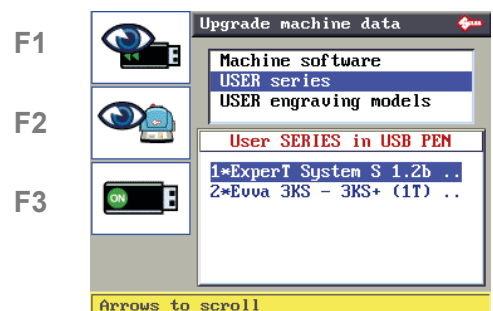
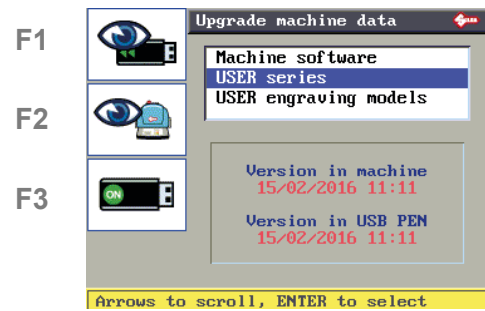
The machine will restart from the initial display.



6.9.2 USER series

F1 to view the USER series on the USB PEN.

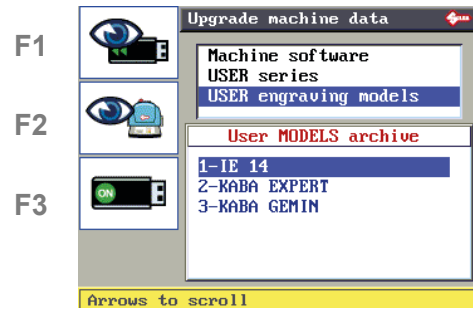
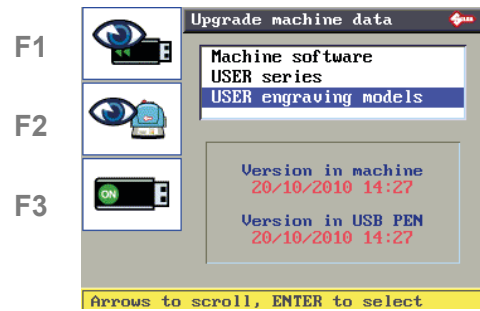
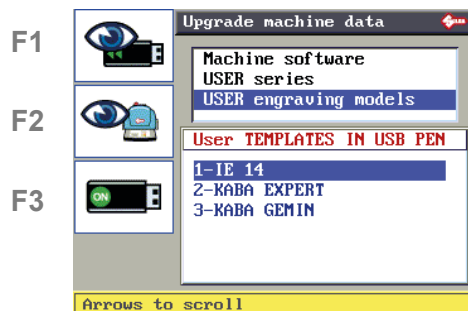
F2 to view the USER series on the machine.



6.9.3 User engraving templates

F1 to view User engraving templates on the USB PEN.

F2 to view User engraving templates on the machine.



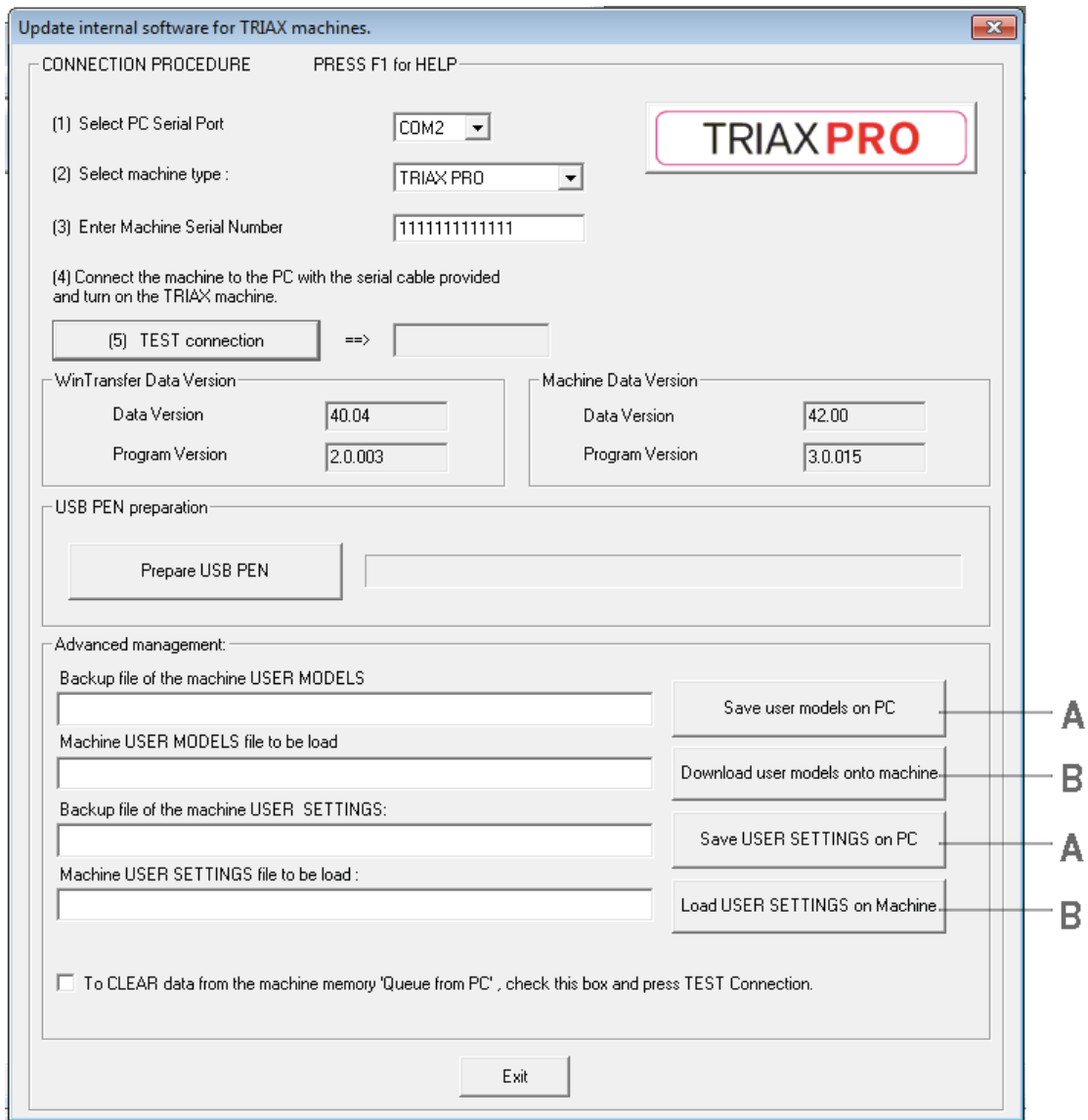
ATTENTION:

- When Engraving templates are downloaded from a USB PEN all the user engraving templates already on the machine are lost.
- Only the user engraving templates on the USB PEN are downloaded.

6.10 USER DATA BACKUP/RESTORE

The WinTransfer program is used to save or restore the User Parameters edited on the machine (user cutting cards, user data, etc...).

- Start the “WinTransfer” program and select the machine model.
- Connect a PC serial or USB cable to the key-cutting machine.
- Select the communication port (COM) and click on “TEST CONNECTION”, the machine serial number will appear in the “Serial Number” field.

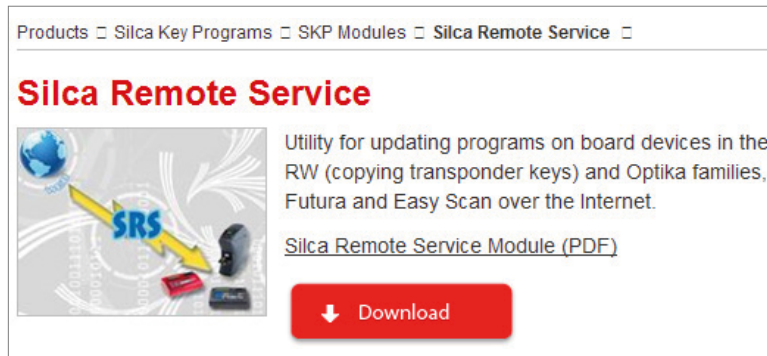


A = button to save the machine data on the PC (user cutting cards, user data, etc....)

B = button to upload the data from the PC onto the machine (user cutting cards, user data, etc.).

6.11 UTP UPDATE AND CLOCK SYNCHRONISING

An internet connection and the Silca Remote Service (SRS) program are required. If necessary the Silca Remote Service program can be downloaded from the Silca website www.silca.biz. Select the menu: Products -> Silca Key Programs -> SKP Modules -> Silca Remote Service.



After installing the SRS program you can:

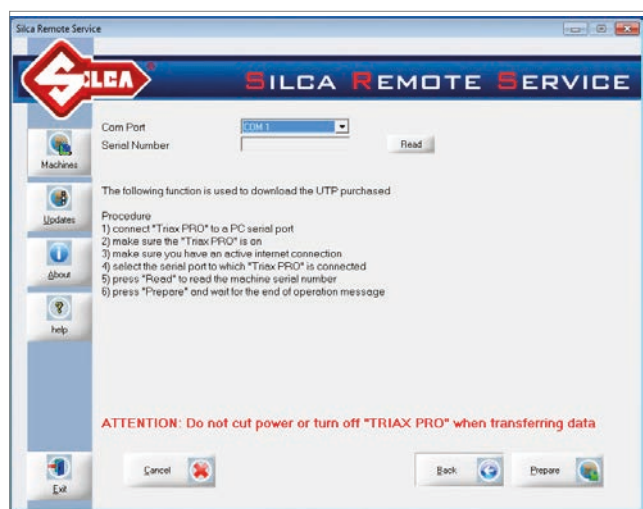
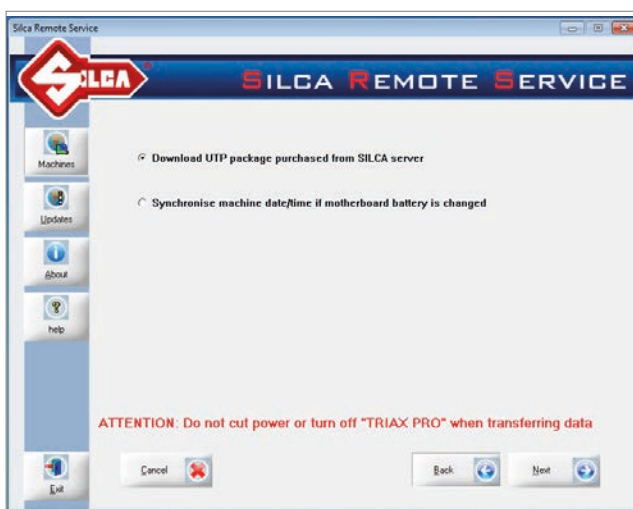
- Download the UTP package purchased from the Silca server
- Synchronise machine Date/Time when the mother board battery is replaced

6.11.1 DOWNLOAD THE UTP PACKAGE

NOTE: do not turn the machine off during data transfer. The machine must be on.

- Connect a PC serial or USB cable to the key-cutting machine.
- Start the SRS program and select the machine model, click on "Next".
- Click on the function "Download UTP package purchased from Silca server" and then "Next".
- Select the communication port (COM) and click on "Read"; the machine serial number will appear in the Serial Number field.
- Click on the "Prepare" button and wait a few minutes for the operation to end.
- Go to the OPTIONS => UTP SETTINGS menu and check that the UTP update has been successful.

NOTE: to check that the UTPs have been downloaded into the machine see Ch. 6.14.2 and Fig. 34



6.11.2 SYNCHRONISE MACHINE DATE/TIME (UTP version only)

NOTE: This operation is necessary only when the machine mother board battery has been replaced.

NOTE: do not turn the machine off during data transfer. The machine must be on.

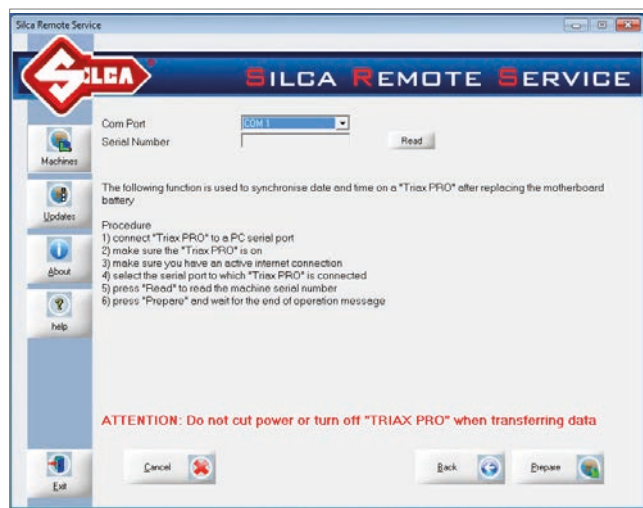
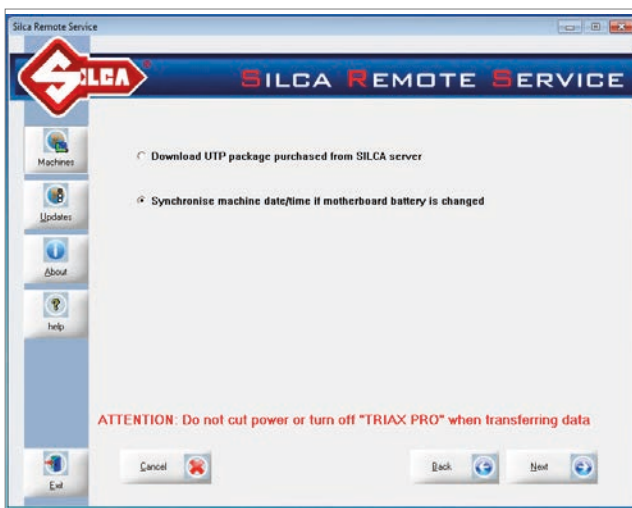
Date/Time can be synchronised only by the SRS program and an internet connection.

After replacing the battery proceed as follows:

- 1) Turn the machine on and wait for an ALARM message to appear.
- 2) Turn the machine off.
- 3) Turn the machine on again and proceed with Date/Time synchronisation.

SYNCHRONISATION PROCEDURE:

- Connect a PC serial or USB cable to the key-cutting machine.
- Start the SRS program and select the machine model; click on "Next".
- Click on the function "Machine Date/Time synchronisation when mother board battery is replaced" and then on "Next".
- Select the communication port (COM) and click on "Read"; the machine serial number will appear in the Serial Number field.
- Click on the "Prepare" button and wait a few minutes for the operation to end.



6.12 CALIBRATION FUNCTIONS

For the following components the machine comes with a “self-calibration” system which uses special templates and procedures:

CLAMPS

TRACER TOWER

The CUTTERS do not need an automatic calibration system; however, if the operator wishes s/he can make certain variations (see CUTTER CALIBRATION).

The ADAPTERS do not need an automatic calibration system; however, if the operator wishes s/he can adjust key cutting values (see ADAPTER CALIBRATION).

In the events shown in the table it may be necessary to repeat one or all the calibration operations on the clamps in your possession. This operation is semi-automatic and requires careful attention to the instructions below.

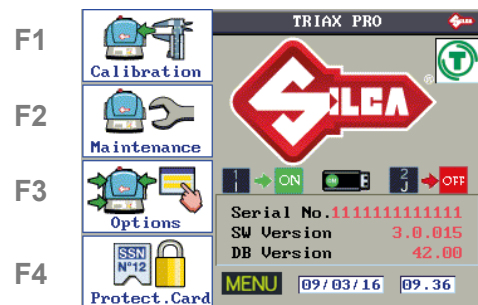
These adjustments must be made when the following events occur:

CALIBRATION TABLE

EVENT	CLAMP calibration	TRACER TOWER calibration
Photocell replacement	YES	YES
Electronic circuit board replacement	YES	YES
Sensor replacement	YES	YES
Ball screw replacement *	YES	YES
Tracer Tower decoder replacement or maintenance	NO	YES

From the initial screen press MENU.

F1 to enable the function.

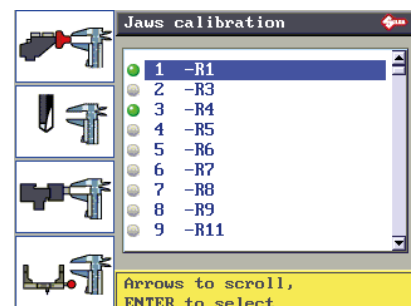


CLAMP CALIBRATION

CUTTER CALIBRATION

ADAPTER CALIBRATION



TRACER TOWER AUTOMATIC CALIBRATION



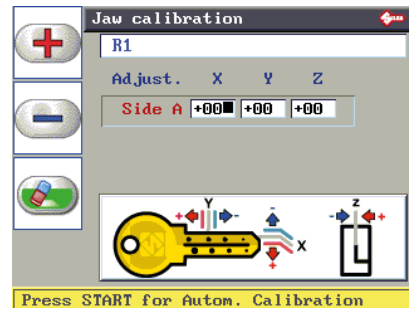
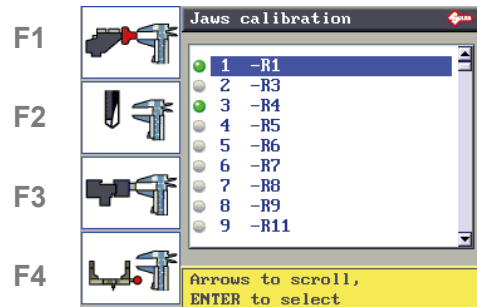
6.12.1 CLAMP CALIBRATION

F1 to access the list of clamps provided by Silca.
Select the clamp to be calibrated.

Press ENTER.

-  GREEN: indicates that the clamp has been calibrated;
-  GREY: indicates that the clamp is not calibrated,

Press **START** to proceed with automatic calibration.

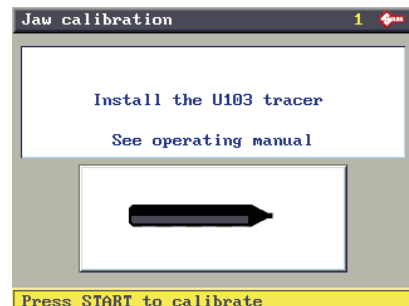
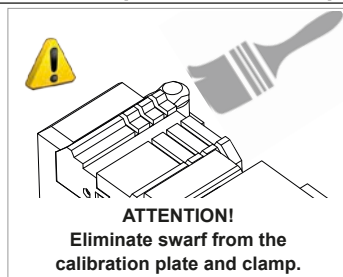


Press ENTER, the display will show the message on the right here.

Make sure tracer point U103 is fitted.

NOTE: before proceeding to calibrate clamps with ...J jaws make sure the jaws are completely closed.

NOTE: Carefully clean the clamp and calibration plate

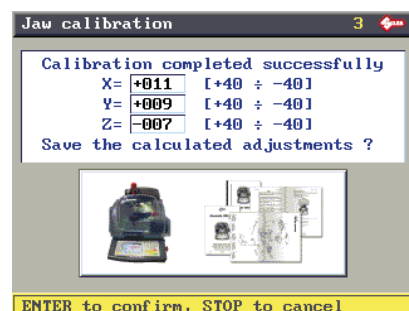


Press **START** to proceed with calibration.

When calibration is finished the display shows the differences in the values read.

Calibration will be accepted only if the size of the variations is between +40 and -40 hundredths of millimetre.

Press ENTER to confirm.



6.12.2 CUTTER CALIBRATION

F2 to enable the cutter calibration function.

NOTE: CUTTERS do not need an automatic calibration system.

GREEN: the cutter has not yet reached its limit (max number of keys to be cut) set and enabled on the next screen (Fig. 31).

RED: the set limit has been reached; in this case it is advisable to replace the “worn” cutter with a new one.

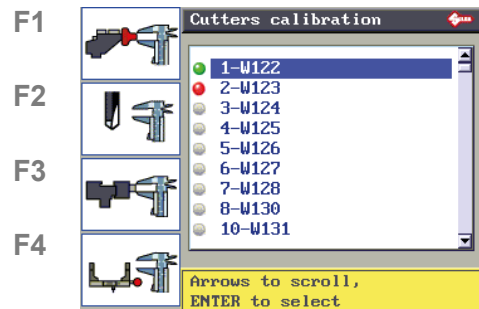


Fig. 31

When the worn cutter is replaced press “F1” to confirm replacement.

The set User Limit remains active and the counter starts again.

Note:

- The User Limit can be varied and, if applicable, the type of material and key length.
- it is good practice to set the type of material for the cutters in your possession. In this way spindle speed will be appropriate for the cutter required by the SSN in use.
- The User Limit (optional) is user definable and indicates the maximum number of keys to be cut (at user’s discretion) with the selected cutter.

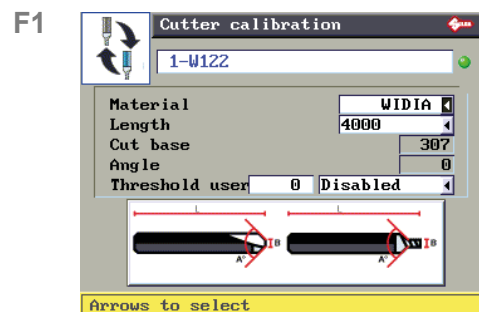
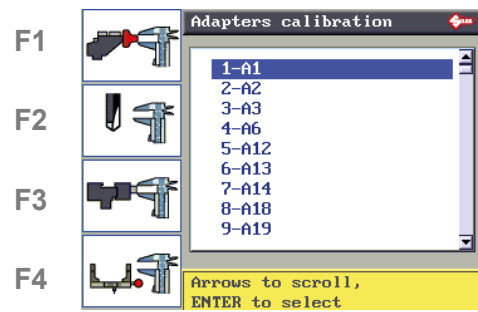


Fig. 32

6.12.3 ADAPTER CALIBRATION

F3 to enable the adapter calibration function.

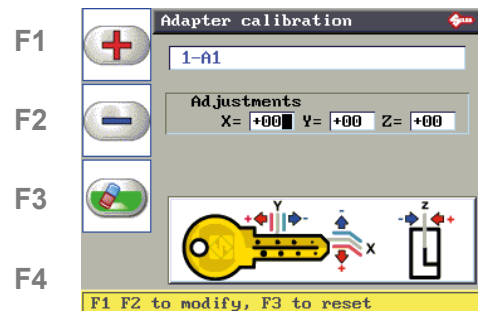
Select the adapter to be calibrated and press ENTER.



F1 for positive values (+).

F2 for negative values (-).

F3 to delete the adjustments made.



Positive value of Y: takes cut closer to stop.

Negative value of Y: takes cut away from stop.

Positive value of X: moves cut to the right of the axis.

Negative value of X: moves cut to the left of the axis.

Positive value of Z: lowers the cut from the axis.

Negative value of Z: raises the cut from the axis.

Adjustments to Spaces/Depths/Heights (-50 to +50 hundredths of mm).

6.12.4 AUTOMATIC CALIBRATION OF TRACER TOWER DEVICE

The TRACER TOWER decoding device holds the tracer point 04TT.

This tracer point is used by TRIAX PRO, as a stand-alone or with a PC, to decode almost all the systems/locks known by Silca S.p.A.

Use of the TRACER TOWER speeds up and simplifies the cutting of original keys.

The operator can avoid:

- searching for and choosing the appropriate decoder;
- replacing the cutter with a tracer point to start decoding;
- replacing the tracer point with the cutter when decoding is over, to prepare for cutting the key.


The machine program is prepared to perform calibration and decoding with either the TRACER TOWER or a tracer point fitted in the place of the cutter.

Simply enable or disable the TRACER TOWER from the "OPTIONS" menu.

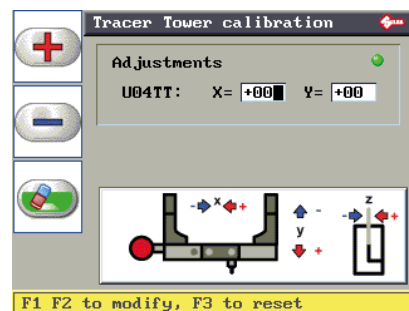
The TRACER TOWER must be CALIBRATED before use.

The TRACER TOWER calibration procedure is carried out only with clamp R29 already calibrated.

Manual adjustments and settings from -30 to +30 hundredths of mm.

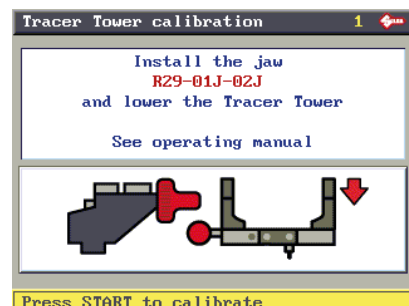
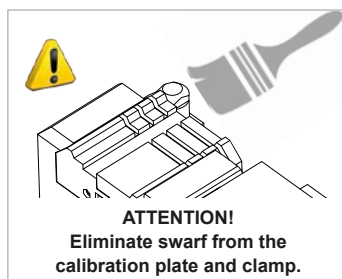
 GREEN: indicates that the Tracer Tower is calibrated.

Press **START** to proceed.



Set clamp R29, lower the Tracer Tower.

NOTE: Carefully clean clamp R29.



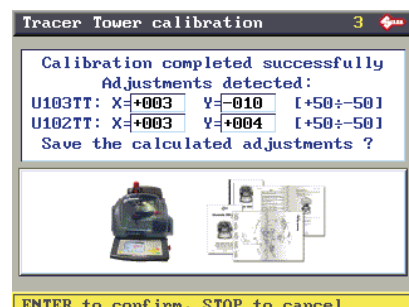
START to proceed with calibration.

When calibration is finished the display will show the differences in the values read.

Calibration will be accepted only if the size of the variations is between +50 and -50 hundredths of millimetre.

ENTER to confirm

STOP to cancel

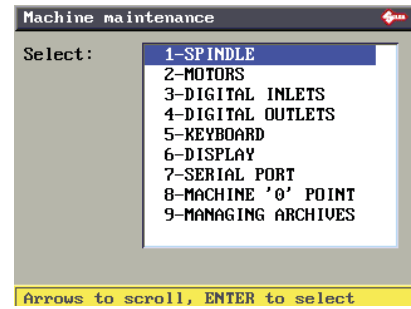


6.13 MAINTENANCE

From the initial screen press MENU and then F2 to enable the function.

Use the “Up/down” arrow keys to position the cursor and choose the option by pressing ENTER, or press the key relating to the option number directly.

NOTE: If the test conditions are not in place, contact Silca After-Sales Service.



6.13.1 SPINDLE (TEST)

Lower the safety shield and press START for a few seconds to start up the spindle.

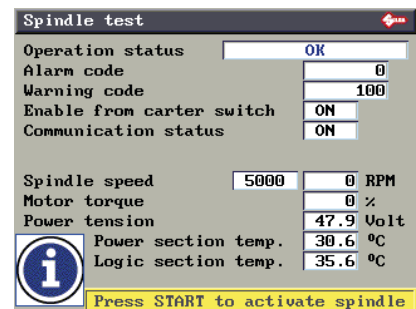
To perform the TEST the following conditions are necessary:

Data card status: OK
 Alarm code: 0
 Warning code: 0
 Cover enabling: ON
 Communication status: ON

Other parameters can be seen when the spindle is on (e.g. RPM;%;Volt; °C).

F4 to view the information about the spindle motor activation card to send to Silca if required.

F4

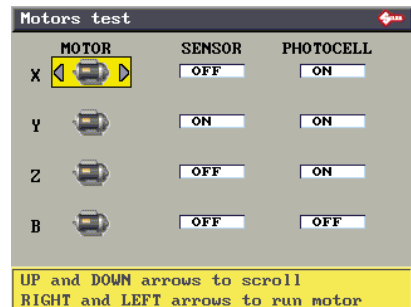


6.13.2 AXIS MOTORS (TEST)

Follow the instructions on the display and check that the carriage for the axis in question moves (X; Y; Z).

Axis B: optional clamp (R13).

NOTE: During these tests all the limit switch controls are disabled; take care not to take the carriage up against the mechanical stops.



6.13.3 DIGITAL INLETS (TEST)

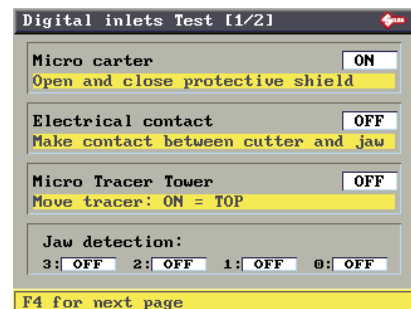
Cover microswitch: raise or lower the cover and check on the display that the indication goes from OFF (with cover up) to ON (with cover down).

Electric contact: use a metal object to create a connection between the cutter and clamp and check on the display that the indication goes from OFF to ON.

Tracer Tower microswitch: raise and lower the TRACER TOWER and check sensor status:

ON: up and idle.

OFF: down or decoding position.



F4 to go to the next page indicating the active inlets.

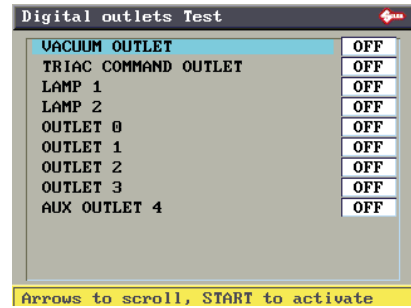
6.13.4 DIGITAL OUTLETS (TEST)

Up-down keys to go to the required fields.

START to go from OFF to ON.

For **Lamp 1/Lamp 2** the lamp (comprising two rows of leds) will go on momentarily).

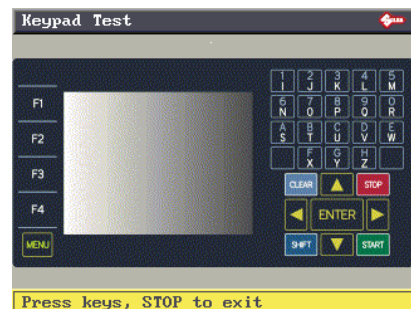
NOTE: Test (Output...) can only be performed with feeder (or other optional devices) fitted.



6.13.5 KEYPAD (TEST)

Press all the buttons, one at a time (except STOP), and check on the display that the same circled button appears for each button pressed.

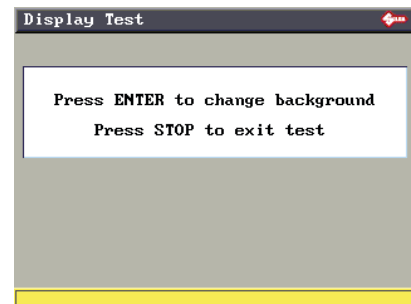
Press the STOP button last to quit the test.



6.13.6 DISPLAY (TEST)

Press ENTER a number of times to check that the background colour changes.

Press STOP to quit the test.

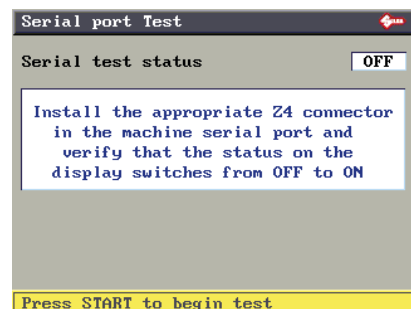


6.13.7 SERIAL PORT (TEST)

Check that the indication on the display is OFF.

Fit the special connector (Z4) provided into the machine serial port.

Press START and check on the display that the indication goes from OFF to ON.



6.13.8 MACHINE ZEROS

The machine is prepared with a “self-calibration” system which uses a template (provided) and special procedures. **THE MACHINE ZEROS PROCEDURE MUST BE CARRIED OUT ONLY WHEN THE FOLLOWING EVENTS OCCUR:**

EVENT	MACHINE ZEROS	CLAMP calibration	TRACER TOWER calibration
Photocell replacement	YES	YES	NO
Electronic circuit board replacement	YES	YES	YES
Sensor replacement	NO	YES	NO
Ball screw replacement	YES	YES	NO
Tracer Tower decoder replacement or maintenance	NO	NO	YES

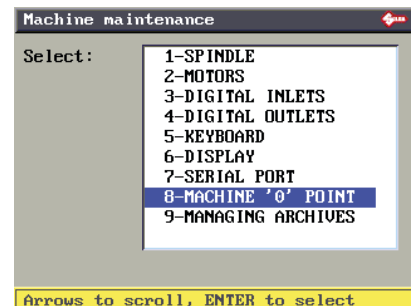
PRELIMINARY OPERATIONS

1. Switch off the machine and disconnect from mains.
2. Remove back plate.
3. Loosen the grub screws securing the photocell disk for Y (G) and Z (L) axes.
4. Remove bottom plate.
5. Remove the X axis carriage cover by loosening the 3 screws (B5) and pull out in the direction given, then remove the belt cover.
6. Loosen the grub screws securing the X axis photocell disk.
7. Reconnect the power lead.
8. Switch on the machine and follow the procedure described below.

NOTE: the operation to load “machine zeros” must be carried out by following the instructions below. After this operation keys cannot be cut or decoded because the machine program will require all clamps to be re-calibrated!

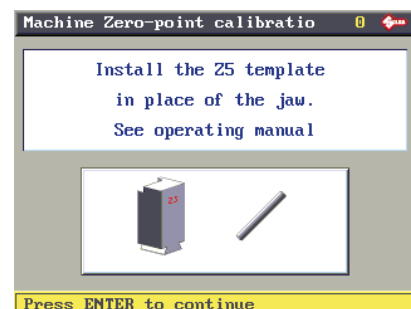
PROCEDURE

Select Machine zeros and press ENTER.



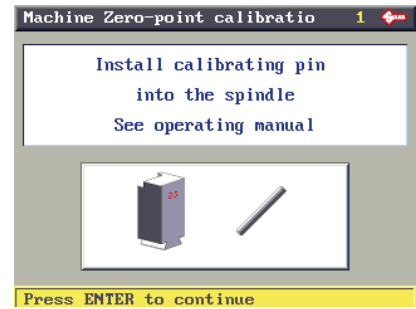
Remove the clamp from its support and fit the template (Z5 - wording towards operator) all the way into the dovetail guide and secure by tightening the grub screw.

Press ENTER.



Remove the cutter and fit the calibration pin (6x40mm) in its place: make sure it is pushed all the way up to the mechanical stop.

Press ENTER.



Check that the template (Z5) and calibration pin are in the position shown in Fig. 33.

Lower the safety shield and press START.

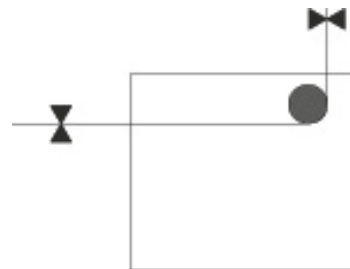
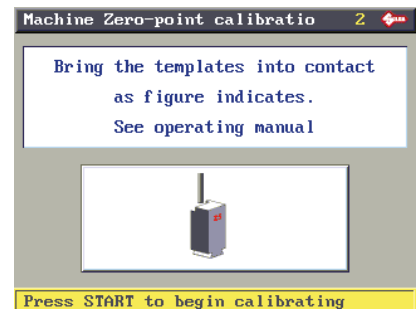
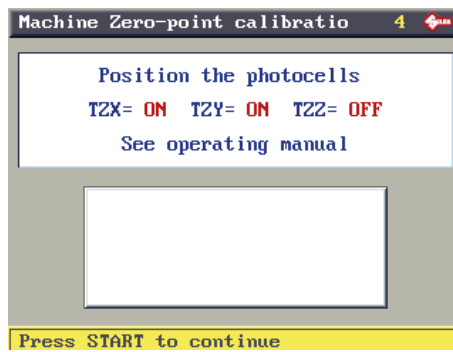


Fig. 33

The machine takes the axes into the predefined position.

PHOTOCELLS



(**) If the template is not properly positioned an ERROR message will appear.

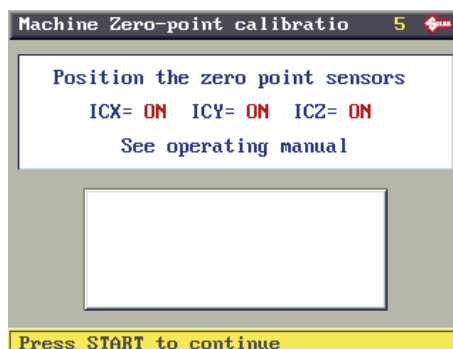
Photocells ON, press START to proceed.

Photocells OFF, regulate as follows:

- upper carriage (X) photocell: turn the X axis disk manually until the TZX description on the display goes from OFF to ON.
- lower carriage (Y) photocell: turn the Y axis disk manually until the TZY description on the display goes from OFF to ON.
- Vertical carriage (Z) photocell: turn the Z axis disk manually until the TZZ description on the display goes from OFF to .

To view and work on photocells (see Ch.8.11)

SENSORS



Sensors ON, press START to proceed.

Sensors OFF, regulate as follows:

- Upper carriage (X) sensor: raise the safety shield and use the hex key to loosen the grub screw (H7); slowly move the rod (H6) manually in both directions until you find the point at which it goes from OFF to ON. Secure the rod by tightening the grub screw (H7).
- Lower carriage (Y) sensor: tip the machine onto its side. Loosen the sensor plate fixing screw (E4) and move the plate manually until the description on the display goes from OFF to ON. Fix the plate by tightening the screw (E4), or loosen the nut (E3) and turn the sensor until the description on the display goes from OFF to ON. Tighten the nut (E3). Reposition the machine on the work bench and lower the safety shield.
- Vertical carriage (Z) sensor: loosen the nut locking the rod sensor and turn the rod manually until the description on the display goes from OFF to ON. Tighten the nut; lower the safety shield.
- The "Machine zero" values are read by electric contact.

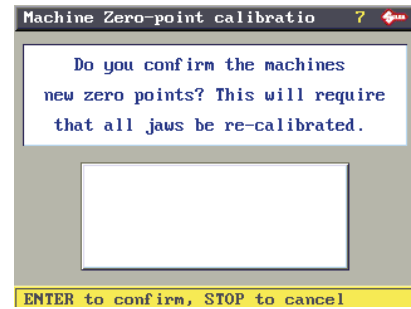
To view and work on the sensors (see Ch.8.10)

ENTER to confirm, only if the previous parameters were all ON.

STOP to cancel the operation and not confirm the edited data. The previous values remain valid (already in the machine memory).

NOTE: If the calibration values read exceed the limits allowed, an error message will appear. Repeat the Machine Zeros procedure more carefully.

ENTER to confirm the MACHINE ZEROS procedure.
All the clamps in your possession must be re-calibrated.



6.13.9 ARCHIVE MANAGEMENT

The ARCHIVE MANAGEMENT function is used to manage the data employed for machine diagnosis:

HISTORIC EVENTS

or to save/reset:

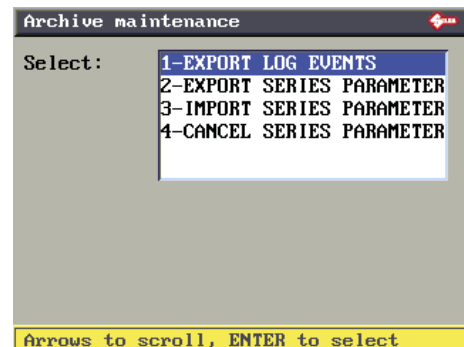
SERIES PARAMETERS

During its normal operation the machine records many events relating to the main ERRORS/ALARMS that occur.

This information can be downloaded to an EVENT.LOG file in the USB PEN by means of the EXPORT HISTORIC EVENTS function. The EVENT.LOG file can be sent to the After-Sales Service so any problems when operating the key-cutting machine can be better understood.

When using SILCA or User series the operator can edit some of the parameters, such as the cutter, clamp, manual adjustments, etc.

The EXPORT PARAM. function can be used to save these parameters on the USB PEN (as a backup copy) and load them onto the machine memory with the IMPORT SERIES PARAM. function, or use them on another TRIAX PRO key-cutting machine. The DELETE SERIES PARAM. function eliminates all these data.



NOTE: Perform the "HISTORIC EVENTS" operation ONLY if the MACHINE IS NOT WORKING PROPERLY and after consulting the After-Sales Service.

6.14 OPTIONS

From the initial screen press MENU and then F3 to enable the function.
There are 5 machine option windows to select by pressing F1.

Hold down F4 to retrieve the original parameters set by Silca S.p.A.

Machine parameters/options that can be forced to the original manufacturer's value:

Rapid speed: 4000
Measuring unit: millimetres
Date format: DD/MM/YY
Time format: 0-24
Keypad inversion: NO
Quick menu: NO
Use Tracer Tower: YES
Make preselection: ALL

6.14.1 MACHINE OPTIONS [PAGE 1/5]

The display shows: Preferences

Current language: use the arrow keys (r/h-l/h) to select the required language, then press ENTER to confirm.

Measuring unit: use the arrow keys (r/h-l/h) to select the required measuring unit (mm=millimetres, inch.=inches), then press ENTER to confirm.

Quick menu: if enabled (=YES) used in heavy operating flows to skip some of the steps and speed up the required procedure.

Keypad inversion: function normally disabled: use the arrow keys (r/h-l/h) to select your choice (YES or NO) then press ENTER to confirm.

This operation is used to invert the function of the alphanumerical keys.

“Keypad inversion” disabled:

to digit number 3: press 3/K

to digit letter K: press SHIFT + 3/K

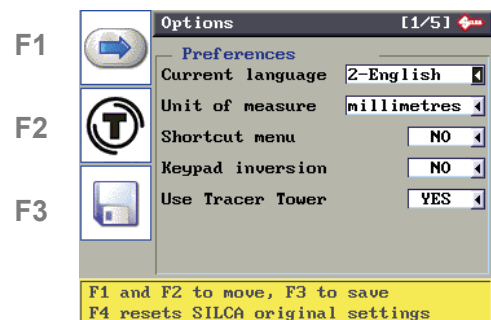
“Keypad inversion” enabled:

to digit number 3: press SHIFT + 3/K

to digit letter K: press 3/K

Use Tracer Tower:

- if the Tracer Tower is enabled (=YES) the program will always give instructions to position the Tracer when necessary and will oblige the user to employ the tracer point only in special cases of exceptional sizes that cannot be managed.
- if the Tracer Tower is disabled (=NO) the program will check that it is in the up position (safe) and will give instructions to fit the appropriate tracer point for the type of key.



6.14.2 UTP SETTINGS

“**UTP (Unlimited Token Plan)**” is a new “timed use” concept applied to the machine.

“**UTP (Unlimited Token Plan)**”: a special “timed digital token” that allows the machine to be used freely (unlimited key cutting) for a given period (up to 31 December of the calendar year in progress).

Key F2: to select the UTP (Unlimited Token Plan) menu.

UTP deadline notice (days): indicates the limit, expressed in number of days, which activates the special warning messages.

Date deadline: indicates the date on which the UTP package expires. After this date the machine will no longer cut keys (operational for decoding and engraving only).

Note: when the UTP has expired, to continue using all the machine functions contact a Silca distributor to purchase another UTP package.

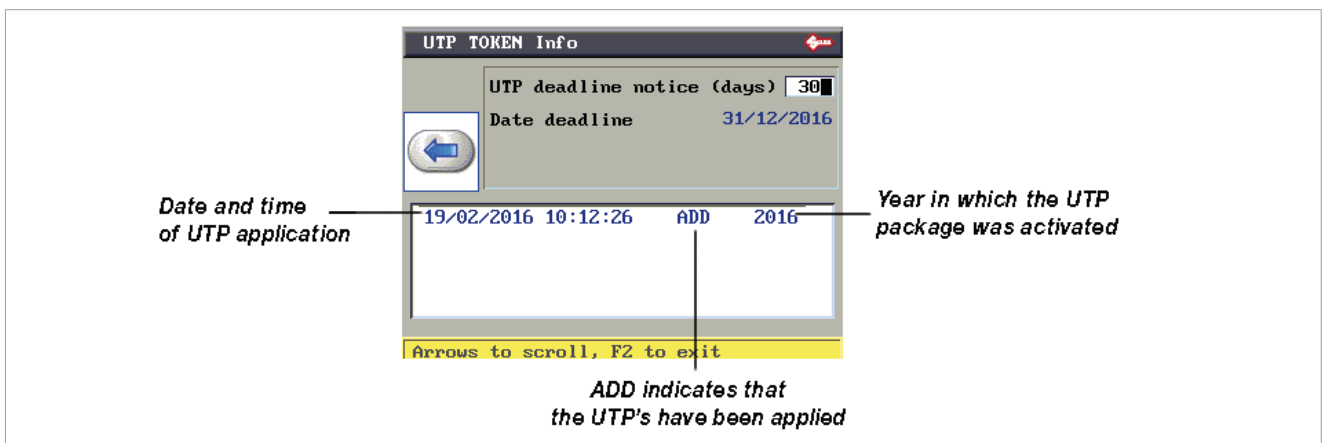
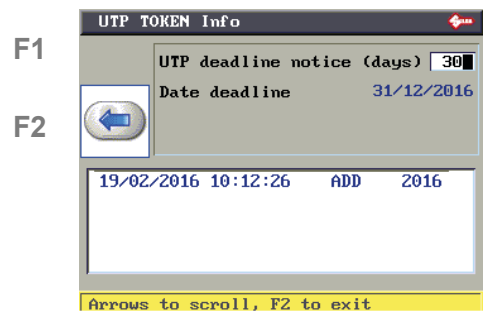
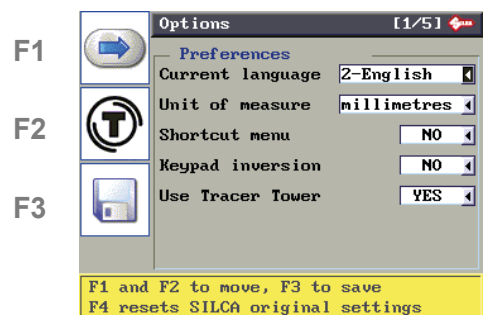


Fig. 34

EXTRATOKEN

When customers have finished their UTPs a warning message appears: the customer has another 30 days (Extratoken) in which to purchase a UTP package. At the end of the 30 days the machine can no longer be used to cut keys (it is operative for decoding and engraving only).

To continue using all the machine functions contact a Silca distributor to purchase another UTP package (Ch.6.14.2 UTP SETTINGS).

ATTENTION: the UTP package purchased expires at the end of the calendar year in progress (31 December).

6.14.3 MACHINE OPTIONS [PAGE 2/5]

The display shows: Machine data

Model: machine model.

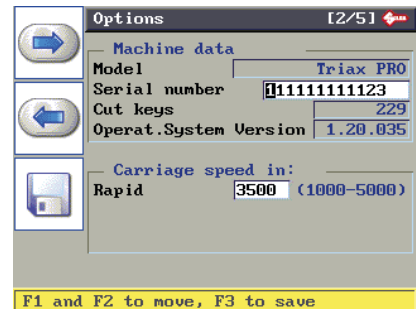
Serial number: the serial number shown on the ID plate on the back of the machine.

Keys cut: cutting done.

O.S. version: version of machine Operating System.

Carriage speed

Rapid velocity: the speed with which the carriages go towards the cutting area before starting to cut. The set speed is for ideal conditions, but the operator can change it to a minimum of 1000 and a maximum of 5000.



6.14.4 MACHINE OPTIONS [PAGE 3/5]

Used to filter searches by code through selection of the most important makes.

In this way the number of SSNs involved in the search can be reduced.

Operators can create their own partial filters.

F4 to enable or disable all makes.

Press "CLEAR" to cancel the selection.

[193] - total number of makes

[4/193] - partial number of makes (selected by user)

The standard machine setup enables searches through all makes as soon as one is selected.

- F1
- F2
- F3
- F4



6.14.5 MACHINE OPTIONS [PAGE 4/5]

The display shows: Clock

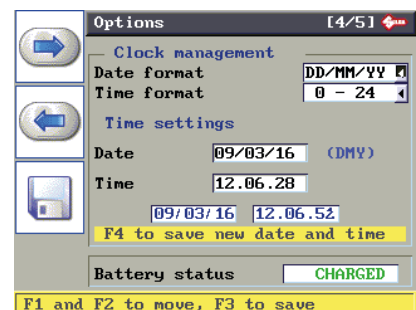
Date and time formats: use the arrow keys (r/h-l/h) to select the format required for the DATE (DD/MM/YY by default, or MM/DD/YY or YY/MM/DD) and TIME (0 – 24 by default or am – pm).

Press ENTER to confirm.

Preset date and time: use the up/down arrow keys to enter the field to be edited. Use the arrow keys (r/h-l/h) to go to the item to be edited. Edit by using the numerical keys and press ENTER to confirm. For overall validation of the edited string press F4. The same data in the preset section will also be shown in the lower part of the screen.

Battery status: CHARGED

Automatically reads battery status: charged or discharged. The battery is used for the date function only.



6.14.6 OEM MODE [PAGE 5/5]

The display shows: OEM mode

Option for OEM users who cut large quantities of keys using the same clamp and cutter.

To work more rapidly (key cutting) the user may vary the frequency of checking the cutter on the clamp calibration plate. In the standard mode this check takes place for each single key to be cut.

Enabling OEM mode:

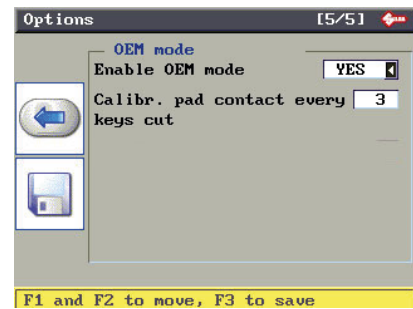
arrow keys to change YES/NO. ENTER to confirm.

Plate contact every xxx keys cut: enter a number of keys (checking frequency) in the special field (1 to max. 999).

Note: we advise OEM users to check the contents of Ch.6.5.2 USER PARAMETERS- Change cutting speed.

F3 to save.

F3



6.15 PROTECTED SSN (DISABLE)

From the screen press MENU and/or F4 to enable the function.

List of protected systems already enabled.

They can be protected again.

Use the arrow keys (up and down) to select the protected system already enabled.

F1 to protect the SSN again

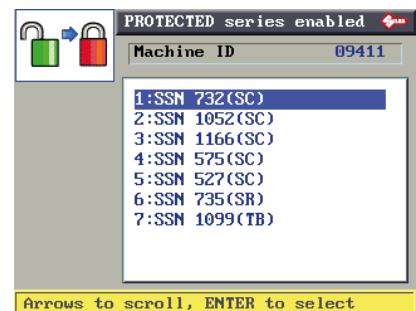
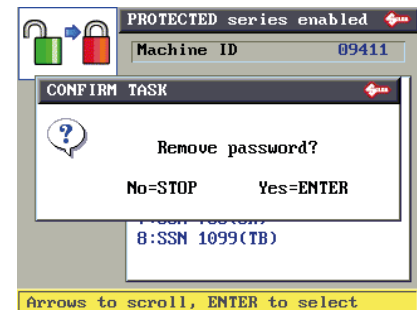
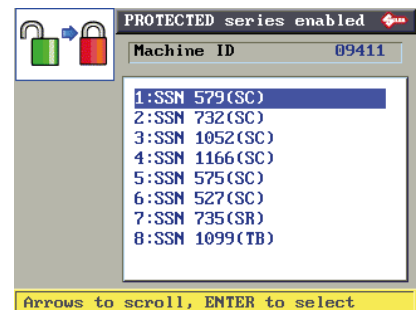
The display shows another message requiring confirmation of removal:

STOP to quit the operation without editing.

ENTER to confirm.

After confirmation the display will show.

F1



7 TRIAX PRO MESSAGES

7.1 WARNINGS

The key cannot be cut if the combination entered is not complete. This is a feature of keys for vehicles.

ATTENTION
Cutting combination not complete!
Please enter all cuts.

To use the TRACER TOWER to decode it must be enabled. Check the setting in the OPTIONS menu and choose YES.

ATTENTION
TRACER TOWER non abilitato!
Verificare impostazione nel menu OPZIONI

The selected series can be used only by entering a valid indirect code. The cut insertion function is not accessible.

ATTENTION
An indirect code is needed to access the series.
Do you want to proceed?
No=STOP Yes=ENTER

The messages warn the user that to cut a key with this series a different clamp must be fitted, or the clamp involved must be calibrated. This operation must be performed before using the series. Press ENTER to consult the series data, but without cutting the keys.

ATTENTION
The jaw is not calibrated!
By pressing ENTER you can only consult the cards data

ATTENTION
In order to use the series the jaw needs to be removed.
Pressing ENTER you can only consult the cards data

The message appears when data is loaded onto the machine by a USB-PEN older than those in the machine memory.

ATTENTION
An older data version has been detected on the USB PEN:
do you still want to continue?
No=STOP Yes=ENTER

The message indicates that neither SILCA or the user has created an engraving model for the key blank selected.

ATTENTION
No engraving model has been created for the selected key blank

ATTENTION
Models have been modified by the User: by proceeding all changes will be lost
STOP=Cancel ENTER=Continue

The procedure for loading user engraving models from a USB PEN overwrites all the user models stored on the machine. Editing of the text or the text position will be lost.

To keep the edited templates stored on the machine use the SKP program or the Free Engraving program provided with the machine.

ATTENTION
This operation will overwrite all User models previously saved in the machines memory.

Not to lose any changes made to the User templates, please use the Silca Key Programs to transfer the engraving models.

The text inserted on the LINE shown at the end of the message is outside the set rectangle (or area). Reduce the number of characters or increase the width of the rectangle

ATTENTION
Entered text exceeds maximum area that is reserved for engraving!
See row:

The OPTIONS menu can be used to choose which makes of cylinders to search through for a lock system (SSN) by key blank, code, description, etc. If by mistake all the makes are disabled the search will give no results

ATTENTION
Select at least one MFG !
[ENTER]

The procedure in the ENGRAVING function for positioning the line of text has not been successfully completed. Please repeat.

ATTENTION
Text tracking area position has not been acquired
[ENTER] to continue

Message for the OEM version without tracer point U102 for dimple keys

ATTENTION
The Tracer Tower is missing tracer U102
See operating manual.

A new contact is required between the cutter and calibration plate. Carefully clean the calibration plate and cutter before proceeding with cutting.

ATTENTION
Start cutter gauging!
Carefully clean setting plate and cutter before proceeding.
STOP=Cancel START=Continue

7.1.1 USB PEN NOT CONNECTED OR WITHOUT REQUIRED DATA

The required data have not been found on the USB PEN; check that the pen is connected and contains the data. If the contents of the USB PEN have been deleted by mistake, use the WinTransfer/SRS program to re-load the data by means of the special function.

ATTENTION
La tabella di codici
non è stata trovata:
verificare che la USB PEN
sia collegata e accesa

ATTENTION
Dati non trovati o
USB PEN non inserita

7.1.2 MESSAGES LINKED TO PRESENCE OR USE OF MOTORIZED CLAMP

IMPORTANT

To install a motorized clamp, for example the R13 tilting clamp, follow the instructions on the display.

To proceed with the selected operation you must:

- 1) Install the motorized clamp
- 2) Connect the clamp to the serial port (M) for axis B.

JAW INSTALLATION R13

To proceed with the selected operation you must:

1. Install the motorized jaw
2. Connect the jaw

ATTENTION

Connecting or disconnecting the motorized jaw while the machine is moving can damage the electronic board.!



ATTENTION: connecting or disconnecting the motorized clamp with the machine in motion may damage the electronic circuit board.

7.2 ERROR MESSAGES

General message.

ERROR XX
INTERNAL ERROR
...

The message warns that the machine has reached a Z axis measurement over the limit allowed.

If the problem persists contact After-Sales Service.

ERROR 1
Depth limit exceeded!

The machine automatic calibration procedure has read adjustment values exceeding the tolerance established by SILCA. Repeat the procedure and pay attention to all the operations required. If the problem persists contact After-Sales Service.

ERROR 2
Tolerance limit exceeded during calibration.
Repeat the operation.
See operating manual.

The spindle rotation release lever is out of line.

ERROR 3
Check tool installation and stop lever position!

A wrong operation has been performed in one of the machine calibration procedures:

- Machine zeros
- Clamp calibration
- Detection of cutting/decoding plate with a clamp different from the one required.

ERROR 4
ERROR Z AXIS
No contact made!

ERROR 5
ERROR X AXIS
No contact made!

ERROR 6
ERROR Y AXIS
No contact made!

The machine has detected an unexpected contact during a movement. The causes could be:

- An obstacle during a movement: remove the obstacle
- A long offcut is creating a bridge between the tool and the fitted key: clean all the swarf off the machine and repeat the operation.
- An offcut is creating a bridge between the TRACER TOWER and the machine: carefully clean any swarf off the TRACER TOWER.

ERROR 7
Faulty contact made.
Press START to reset axes!

Check that:

- the fitted tool is the one required for the operation in progress.
- the length of the tool in use is that set up in the list of cutters (CALIBRATION -> F2 menu)

ERROR 8
Tool too long or not properly installed!

The password entered is wrong. Check that you have entered the password issued by SILCA or apply to SILCA for a password.

ERROR 9
The number of attempts have been exceeded!
Restart the machine.

The problem occurs after replacing the machine mother board. The machine memory has no MACHINE ID. Use the WinTransfer/SRS program to do a CONNECTION TEST.

ERROR 10
Machine ID not set!
See operating manual.

An error has occurred when calculating the cuts or searching by code. Make a note of the error and the condition which caused it and advise After-Sales Service.

ERROR 43
INTERNAL ERROR
Error in searching data or in cutting calculation.
See code:

An error has occurred in calculating the engraving path. Make a note of the error and the condition which caused it and advise After-Sales Service.

ERROR 13
Error in calculating engraving process!
Code:

Error in loading data onto the machine with the USB-PEN. Please repeat the operation to reload the data onto the USB-PEN. If the error persists, make a note of it and the condition which caused it and advise After-Sales Service.

ERROR 16
Error during data updating procedure via USB PEN.
Error code:

The message indicates that the machine has skipped some steps during the job.

The user should check the key just cut and if necessary repeat the entire cutting process for the last key cut.

ERROR 17
Loss of steps detected!
Repeat this job?
No=STOP Yes=ENTER

7.2.1 MESSAGES LINKED TO PRESENCE OR USE OF MOTORIZED CLAMP

These messages appear if the motorized clamp is not connected or connected wrongly with the machine in motion.
To work safely, turn off the machine and follow the instructions on the display.

ATTENTION!

Connecting or disconnecting the motorized clamp with the machine in motion may damage the electronic circuit board.

ERROR 14

SWITCH OFF THE MACHINE!
Connect the jaw and restart.

ERROR 15

SWITCH OFF THE MACHINE!
Disconnect the jaw and restart.

7.3 ALARM MESSAGES

The temperature for the mother board has exceeded the setting.
Check the cooling fan (see Ch.8.3 TROUBLE SHOOTING)

ALARM 1
TEMPERATURE ALARM
Mother board temperature
too high
Switch the machine off!

Indicates that the fuse has been cut out due to a short circuit in an inlet or outlet (see Ch.8.3 TROUBLE SHOOTING)

ALARM 2

I/O POWER ALARM
Check F4 fuse

Indicates a short circuit on the port (IN/OUT) (see Ch.8.3 TROUBLE SHOOTING)

ALARM 3
DIGITAL OUTLET
PROTECTION ALARM
Switch off the machine!

The message indicates faulty functioning of the axis involved in the clearing procedure.
Clearing sensor or photocell not working.
Repeat the operation a number of times. If the problem persists contact After-Sales.

ALARM 9

Axis movement not completed
during resetting phase!

This message appears when an application on the PC tries to transfer data to the machine in the wrong format.
Check whether there is a more recent version of the program used by the PC.

ALARM 10

Data format received from PC is
not compatible with the machine
SW version.
See operating manual.

This happens when the wrong machine SW (i.e. not specifically for the machine model) is downloaded.

ALARM 11

Machine hardware version
is not compatible with
the installed program.

It is important to replace the battery as allows LOG events to be saved with the right date/time.

ALARM 12

Flat clock battery:
see operating manual for replacement.

Download a more up-to-date SW version.

ALARM 13

Machine firmware is more up to date than the software in the USB PEN !

7.3.1 MESSAGES ABOUT SPINDLE

The message indicates that there is no connection between the mother board and driver board.

The problem could be caused by: the mother board; the connection cable between the mother board and spindle driver board; the spindle driver board, the safety microswitch or the fuses on the motor circuit board.

ALARM 5
SPINDLE DRIVER ALARM

No communication between mother board and spindle drive.
See operating manual

Effect : Motor not turning

Cause : Short circuit on spindle motor or board power loss.
Driver damaged.
Check AZ motor board connectors

ALARM 6
SPINDLE DRIVER ALARM

Spindle speed not detected :
motor locked
See operating manual

Effect : Free-running motor does not reach the rotation speed required for cutting.

Cause : Motor not working
Driver board not working
Driver board with wrong parameters.
A fuse on the motor circuit board cut out

ALARM 7
SPINDLE ALARM

Spindle rpm not reached after activation!
See operating manual

Effect : Motor under excessive strain during cutting.

Cause : Cutter does not cut
The combination rpm/cutting speed is not compatible:
select a more suitable combination

ALARM 8
SPINDLE ALARM

Excessive cutter strain during cutting!
See operating manual

Generic alarm relating to the spindle driver board.
Check fuses on the motor circuit board.
If the problem persists contact After-Sales Service.

ALARM 4
SPINDLE DRIVER ALARM

Code: 00000000
See operating manual
[ENTER] to reset alarm

8 CLEANING AND MAINTENANCE

8.1 CLEANING

- Do not clean the machine with alcohol.
- Keep the working parts of the machine as clean as possible, removing swarf with a brush.
- Never use compressed air to clear swarf off the work area; it could cause offcuts to clog the working parts.
- Never use oily products or solvents to clean the painted surfaces, clamps and electric and electronic connection points.

8.2 MAINTENANCE

NOTE: *in the event of repairs or replacement of parts for maintenance, the “CE” mark is guaranteed only if original spare parts provided by the manufacturer are used.*

The TRIAX PRO key-cutting machine does not need special maintenance but it is good practice to check and if necessary replace parts subjected to wear and substitute electric/electronic parts (fuses, circuit boards, etc.) when they are not working properly.

Parts can be replaced by the operator observing the instructions.

NOTE: *For normal maintenance of burnished mechanical parts we suggest using lubricants or protective products such as WD40 or similar. Do not apply them to the parts used for electric contact (clamps, decoders, cutters, calibration templates...). Do not let the product come into contact with the electronic parts.*

Before starting any type of maintenance (checks or replacements) read the following warnings:

- Do not carry out any maintenance operations with the machine on
- Always disconnect the power lead
- Follow the instructions in the manual to the letter
- Use original spare parts (see “spare parts sheet” provided with the machine).

8.3 TROUBLE SHOOTING

FAULT	CHECK	PROBABLE CAUSE		
<p>The machine is on but there is nothing on the display.</p>	<p>check that the fan on the back of the machine is working:</p>	YES	<ul style="list-style-type: none"> a) emergency button activated b) general fuses cut out on power socket c) ON switch on back of machine in OFF position d) power lead disconnected e) fuse F4 or F3 cut out 	
		NO	<ul style="list-style-type: none"> b) connection cable between display and electronic circuit board badly placed c) display faulty 	
		<p>The cutter motor is not turning:</p>		a) the closed safety shield is not touching the safety microswitch properly.
				b) fuse F6 or F7 on the motor circuit board cut out.
				c) motor cable is not properly inserted into the connector
				d) electronic circuit board faulty.
e) fuse F5 cut out				
<p>Display shows the words "Cutting or decoding in progress, etc.." but the X-Y-Z axes are not moving and no buttons are enabled.</p>		Check the cut-out fuse F2 on the circuit board.		
		Check the X-Y-Z axis motors with test digital inlets		
		Check the X axis connection cable		
		The connection cables for the X-Y-Z axes to the circuit board are not properly fixed or the connectors are not inserted properly Electronic circuit board faulty.		
<p>The display shows the message "close safety shield" when it is already closed.</p>		a) the closed safety shield is not touching the microswitch properly		
		b) fuse F4 on the control circuit board cut out		
<p>The keypad is not working (partially or entirely).</p>		a) the keypad connector is not properly inserted in the interface circuit board		
		b) the connection cable between the keypad/display unit and circuit board is not properly inserted into the relative connectors		
		c) keypad faulty		
		d) control circuit board faulty		
<p>When decoding or calibrating the tracer point on the TRACER TOWER device repeatedly strikes the clamp or key.</p>		The earth wire on the (F3) Tracer Tower is disconnected or broken (Fig. 65)		
		The earth wire (J3) in the X axis carriage is disconnected or badly secured		
		The connecting wire to the J14M connector on the circuit board is not properly inserted into the relative connector.		
		Control circuit board faulty.		
		The keys used have no electric conductivity (Ultralite anodized aluminium keys, plastic keys...)		
<p>When calibrating the clamp or decoding the U103 tracer point repeatedly strikes the calibration plate.</p>		The earth wire (C2) on the cutter shaft is disconnected or broken (Fig. 66)		
		The connecting wire to the J14M connector on the electronic circuit board is not inserted properly into the relative connector.		
		There is swarf on the top part of the cutter shaft.		
		Control circuit board faulty.		
<p>The key-cutting machine cannot communicate with the computer.</p>		a) connection wire between the 9-pin serial port (or USB) and the circuit board badly inserted or disconnected		
		b) serial cable (or USB) between key-cutting machine and computer is faulty or disconnected		
		c) computer serial port (or USB) faulty		
		d) control circuit board faulty		
<p>The display shows the message: "TEMPERATURE ALARM Switch off the machine".</p>	<p>Check that the fan on the back of the machine is working:</p>	not working	a) fan faulty or badly connected	
			b) control circuit board faulty	
		working	a) control circuit board faulty	

FAULT	CHECK	PROBABLE CAUSE
<p>The X axis upper carriage moves to the left or right and knocks against the machine limit switch.</p>		Use tests digital inlets to check the photocell sensor.
		Check fuse F4 on the circuit board.
		Check the X axis connecting wire (J1).
		Control circuit board faulty.
<p>The Y axis lower carriage moves towards the operator or the front part and knocks against the machine limit switch.</p>		Use tests 6 and 9 to check the photocell sensor.
		Check fuse F4 on the circuit board.
		Control circuit board faulty.
<p>The Z axis carriage moves upwards and knocks against the machine limit switch, or moves downwards and knocks against the clamp.</p>		Use tests 7 and 10 to check the photocell sensor.
		Check fuse F4 on the circuit board.
		Control circuit board faulty.
<p>The display shows the message "Spindle ALARM check and fit tool and position locking lever".</p>		Check lever position.
		Check for swarf on the top part of the cutter spindle

8.4 ACCESS TO THE UPPER COMPARTMENT

- 1) Switch off the machine and disconnect the power lead.
- 2) Loosen the 3 screws (C2).
- 3) Lift the safety shield (V).
- 4) Raise the lever (A) and remove the tool on the machine.
- 5) Lower the lever (A) and lower the safety shield (V).
- 6) Raise lever (A) again.
- 7) Remove the belt cover.

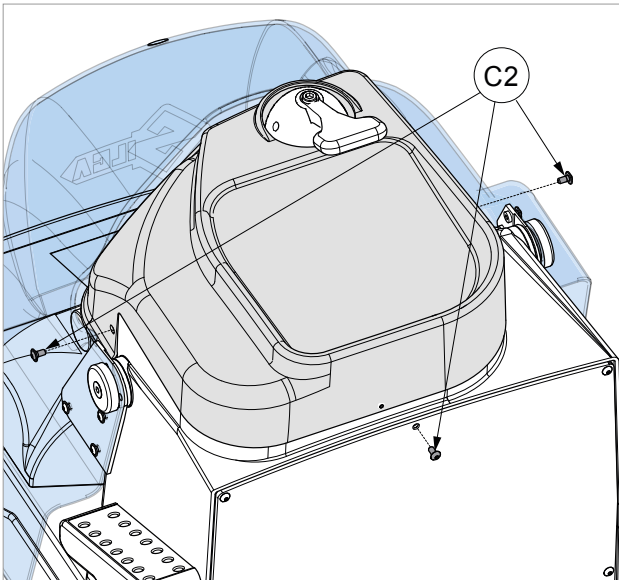


Fig. 35

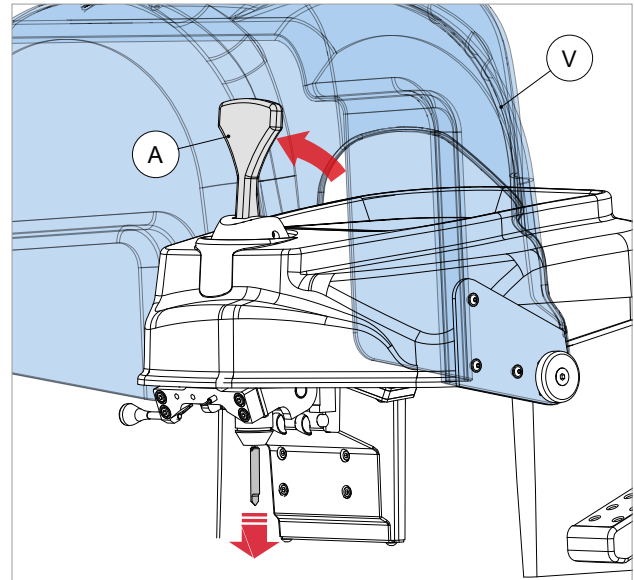


Fig. 36

8.5 ACCESS TO REAR COMPARTMENT

To access the rear compartment follow the instructions below:

- 1) Switch off the machine and disconnect the power lead.
- 2) Loosen the 6 screws (W1) fixing the back metal plate and remove.

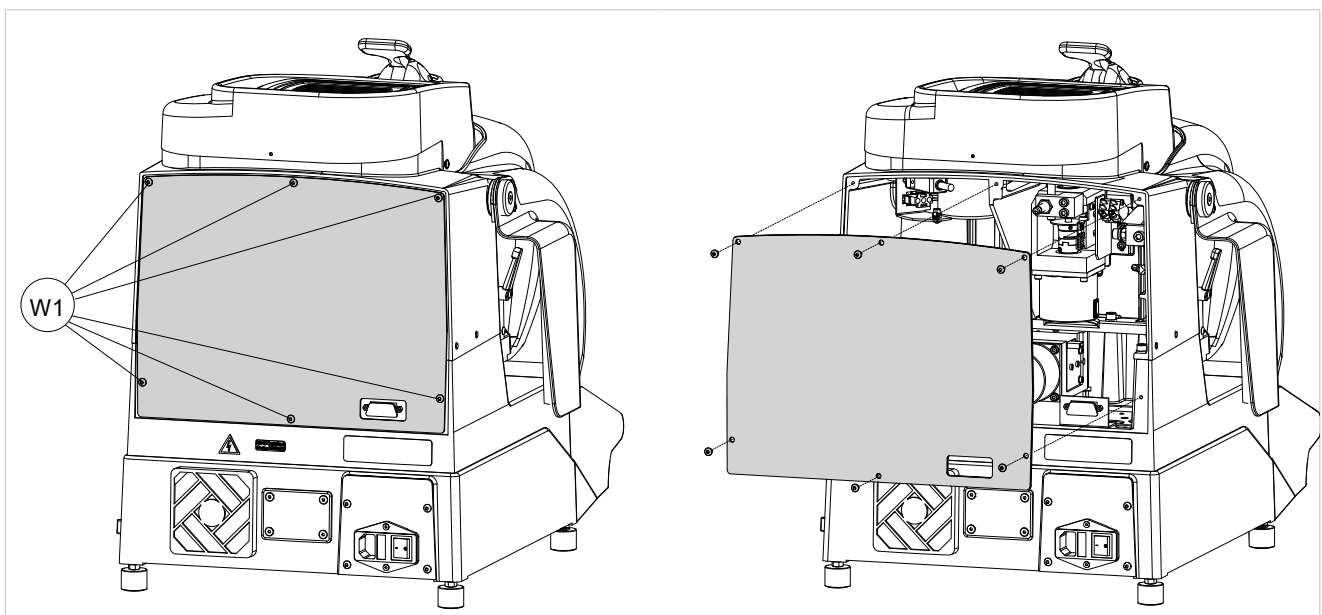


Fig. 37

8.6 ACCESS TO BOTTOM COMPARTMENT

To access the bottom part of the machine, follow the instructions below:

- 1) **Switch off the machine and disconnect the power lead.**
- 2) Turn the machine onto its back.
- 3) Loosen the 8 fixing screws (Z2) and remove the bottom metal plate.

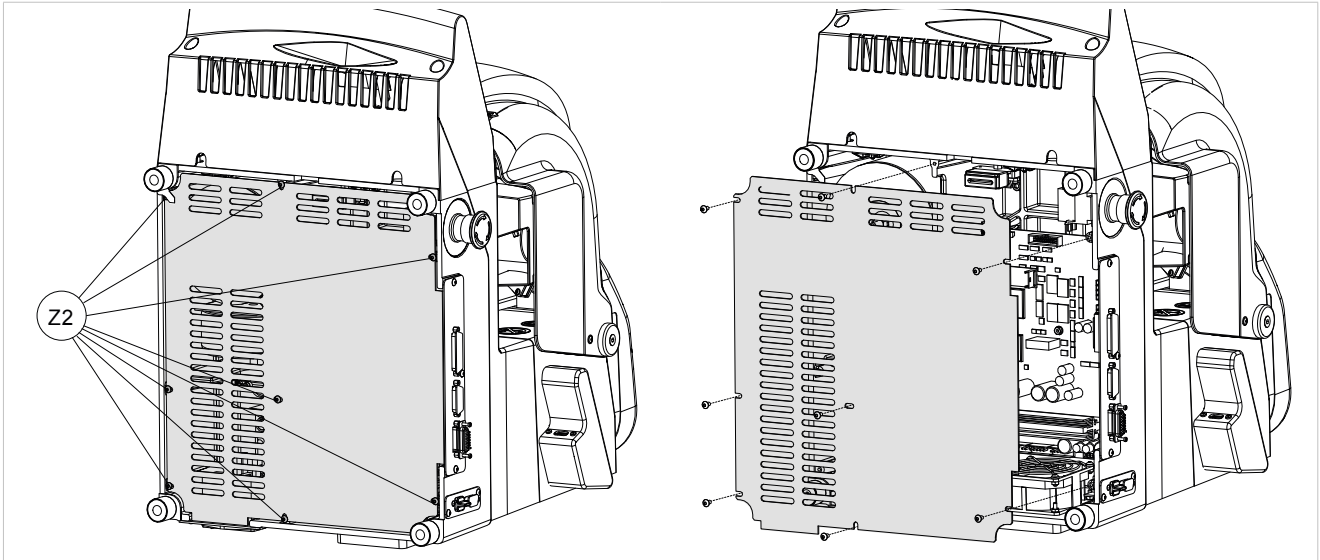


Fig. 38

8.7 BELT REPLACEMENT AND TIGHTENING

- 1) **Switch off the machine and disconnect the power lead.**

- 2) Gain access to the upper compartment (Ch.8.4).

- **Tightening:**

- increase tension on the belt by loosening the 3 screws (C1) with the Allen wrench provided and pushing the pulley back. Tighten the 3 screws (C1).

- **Replacement:**

- remove the belt and replace

- 3) Replace the belt cover and secure with the 3 screws (C2) (Fig. 35).

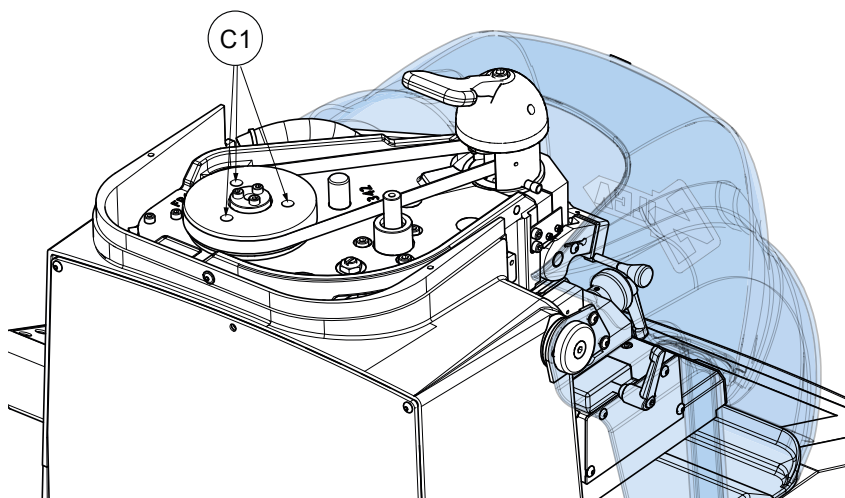


Fig. 39

8.8 CHECKING AND REPLACING FUSES

Check fuses with a continuity measuring instrument (tester, ohmmeter, multimeter, etc.) as they may appear intact to the eye even though they are electrically faulty. Every fuse must be replaced with another one of the same value (in Amps) and type (rapid or delayed), as indicated in the manual.

There are 9 fuses on the TRIAX PRO key-cutting machine.

- **2 fuses:**

- 4 Amps delayed (230V)**

- 6,3 Amps delayed (100V)**

Located on the power socket on the back of the machine, next to the switch, these protect the machine from voltage surges and possible short circuiting.

Check and replace if necessary, following these instructions:

- 1) Switch off the machine and disconnect the power lead.
- 2) With the aid of a screwdriver open the socket flap, remove the fuses and replace if necessary.

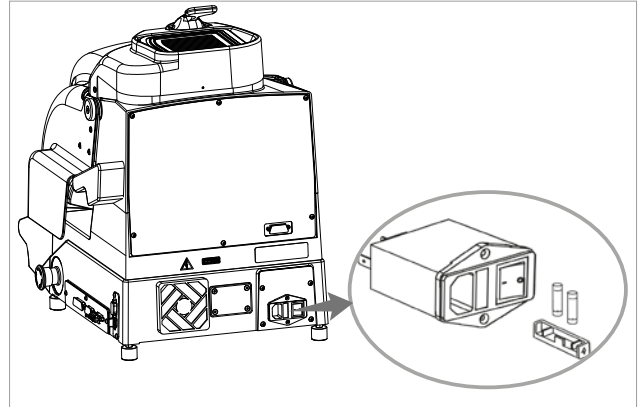


Fig. 40

- **3 fuses: F2, F3, F4:**

F2: 6,3 Amps delayed

Protect the step motors and their electronic controls (+32V d.c.)

F3: 4 Amps delayed

Protect the logic circuits for controlling the microprocessor circuit board (+5V d.c.)

F4: 2 Amps delayed

Protect the digital outlet circuits for the low voltage controls and sensor inlets (+24V d.c.)

Situated on the electronic circuit board inside the base, they protect the circuit board from possible short circuiting.

Check and replace if necessary, following these instructions:

1) Switch off the machine and disconnect the power lead.

2) Gain access to bottom compartment (ch.8.6).

Check the fuses and replace if necessary in the following way:

1) To remove the fuse:

- use your fingers to press the cap on the fuse holder and turn anticlockwise.

2) To fit a new fuse:

- take care that the fuse is properly positioned, press the cap on the fuse holder and turn clockwise.

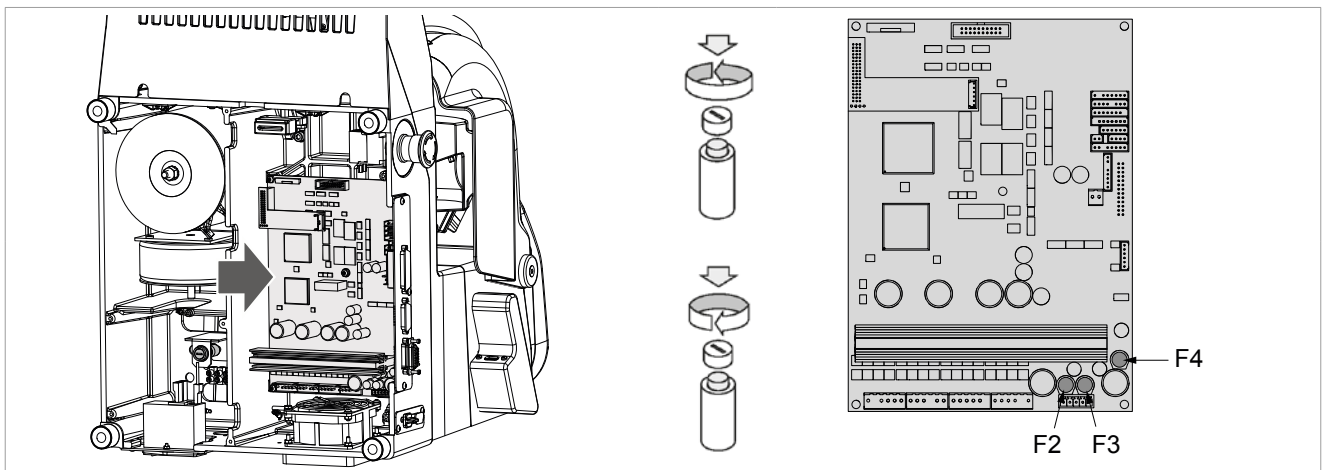


Fig. 41

- **1 fuse F5:**
1,6 Ampere ritardato (230V)
2 Ampere ritardati (100V)

Protects the main electronic circuit board transformer.
 Situated in the bottom of the base.

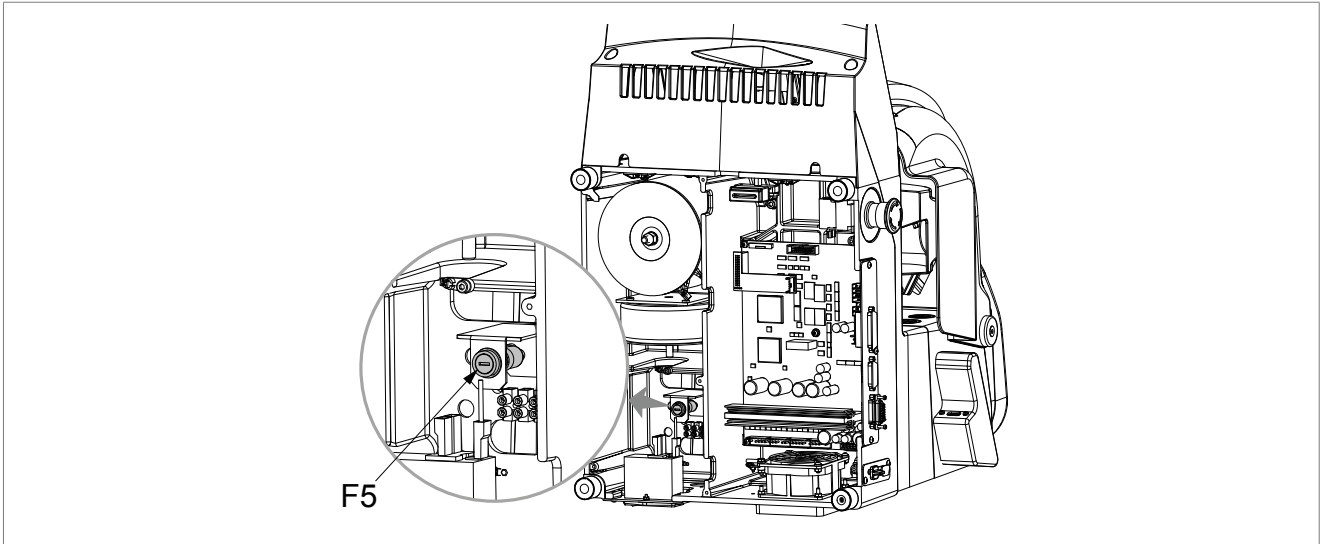


Fig. 42

- **2 fuses: F6, F7:**
1 fuse: F6: 8 Amps delayed

Protects motor power.

- 1 fuse: F7: 1 Amps delayed**

Protects the motor circuit board.

Situated on the motor circuit board at the rear of the base.

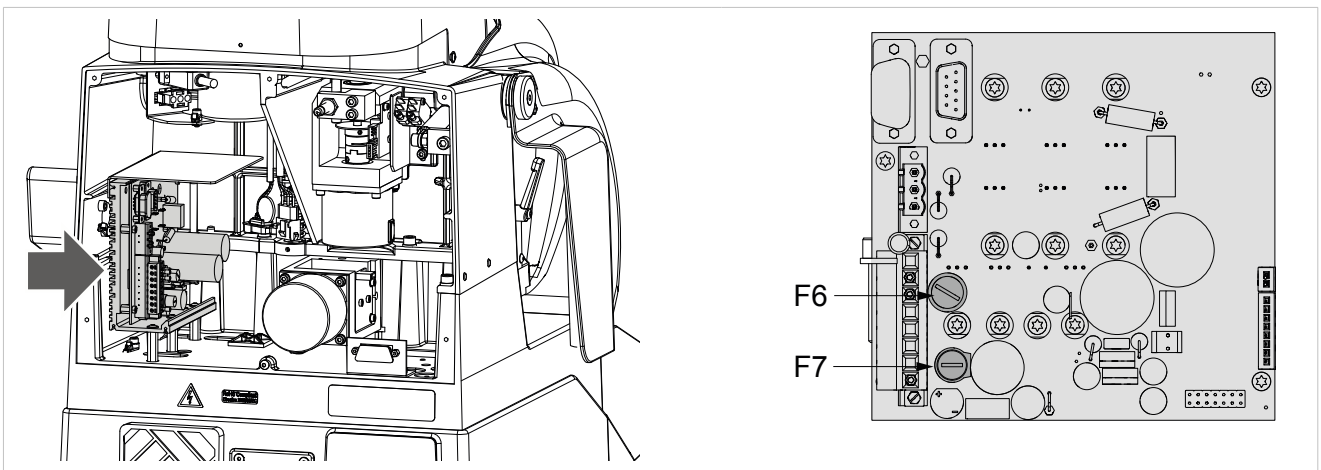


Fig. 43

8.9 KEYPAD/DISPLAY REPLACEMENT

- 1) Switch off the machine and disconnect the power lead.
- 2) Loosen the 2 fixing screws (F1) and remove the display stand.
- 3) Detach the cable and earth wire from the keypad .
- 4) Loosen the keypad fixing nuts and remove the keypad from its stand.
- 5) Fit the new keypad/display by repeating the operations described above, in reverse order.

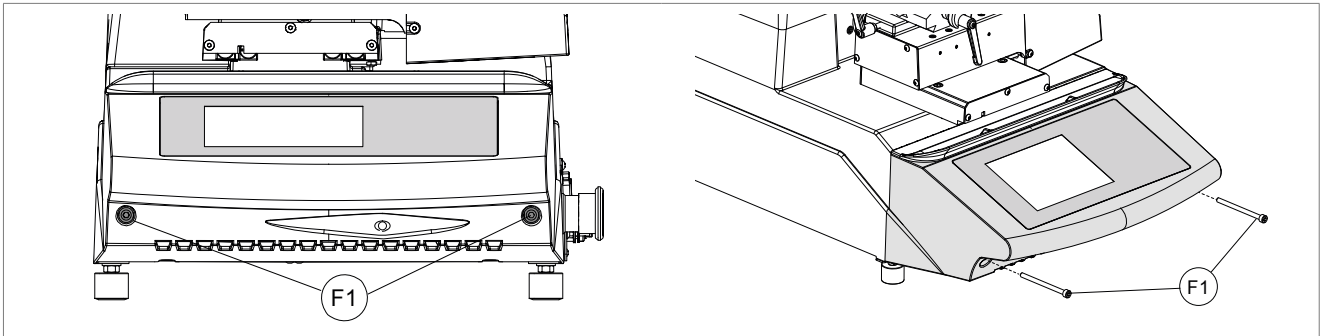


Fig. 44

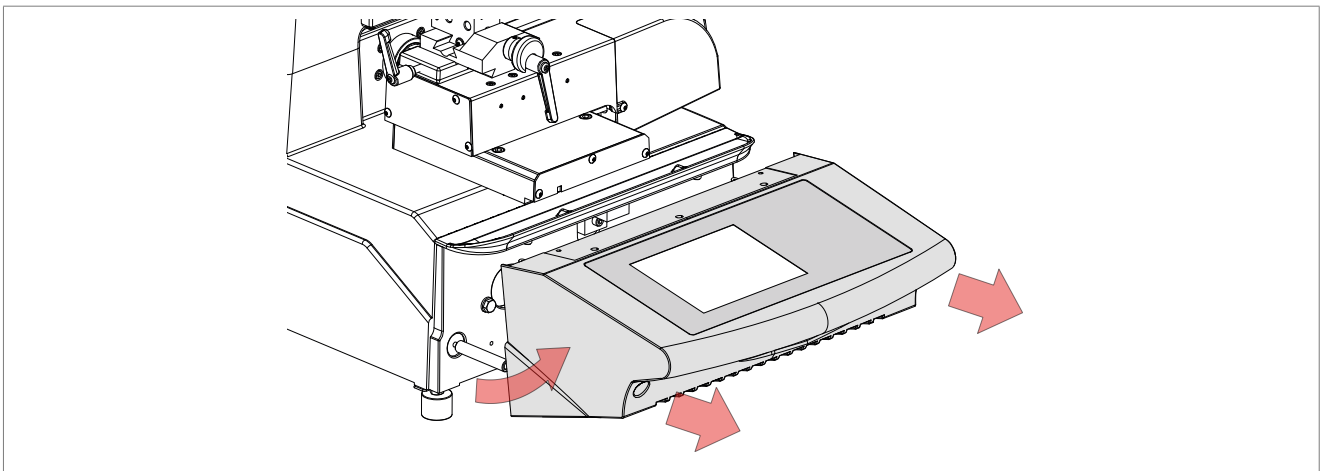


Fig. 45

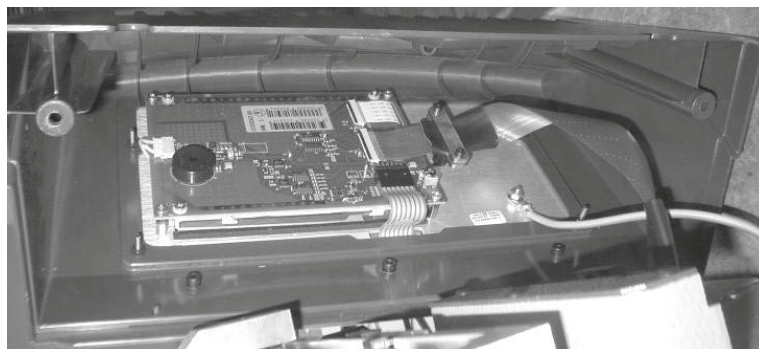


Fig. 46

8.10 SENSOR REPLACEMENT

8.10.1 REPLACING SENSOR FOR LOWER AXIS (Y)

1) Switch off the machine and disconnect the power lead.

2) Loosen the 2 fixing screws (F1) and remove the display stand (Fig. 44).

3) Detach the keypad cable and earth wire as shown in Fig. 46.

4) Gain access to the bottom compartment (Ch.8.6).

5) Loosen the two fixing screws and remove the transformer plate.

6) Disconnect the lower Y axis sensor connector from the circuit board.

ATTENTION: DO NOT LOOSEN SCREW (E4) !!!

7) Loosen the nut (E3), unscrew the sensor from the plate and remove (Fig. 47).

8) Loosen the 3 screws (E1) and remove the lower carriage front cover (Fig. 48).

9) Place the new sensor in position and screw down until it almost touches the screw (E2), then lock the nut (E3).

10) Connect the sensor connector to the circuit board.

11) Replace the transformer plate, lower metal plate and display stand by performing the same operations in reverse order.

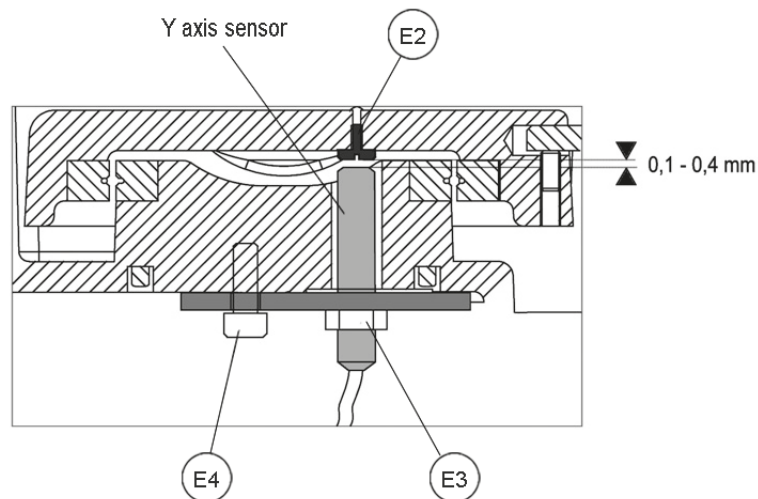


Fig. 47

Drawing references for SENSOR REPLACEMENT AND REGULATION (see MACHINE ZEROS).

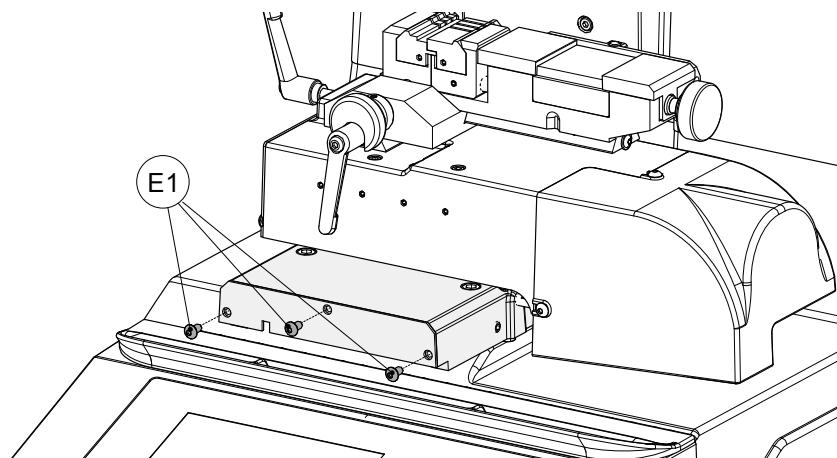


Fig. 48

8.10.2 REPLACING SENSOR FOR VERTICAL AXIS (Z)

- 1) Switch off the machine and disconnect the power lead.
- 2) Gain access to the rear compartment (Ch.8.5).
- 3) If necessary, gain access to the top compartment (Ch.8.4).
- 4) Disconnect the sensor connector (G3) from the circuit board.
- 5) Loosen the nut (G1), unscrew the sensor from the plate and remove.
- 6) Place the new sensor (G2) in position, screw down until it almost touches the pin (G4) and secure with the nut (G1).
- 7) Connect the sensor connector to the circuit board.
- 8) Replace the rear metal plate and belt cover.

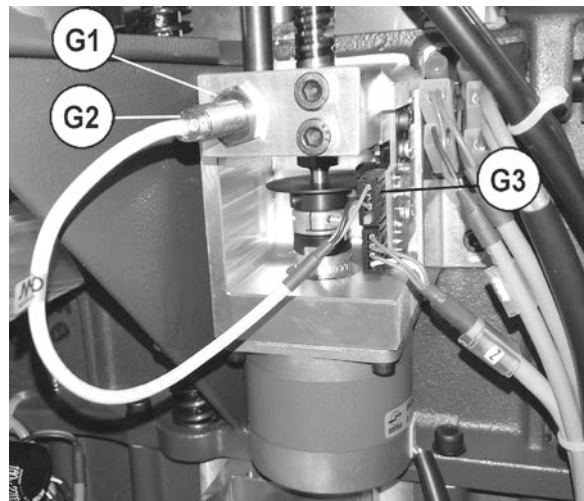


Fig. 49

Drawing references for SENSOR REPLACEMENT AND REGULATION (see MACHINE MACHINE ZEROS).

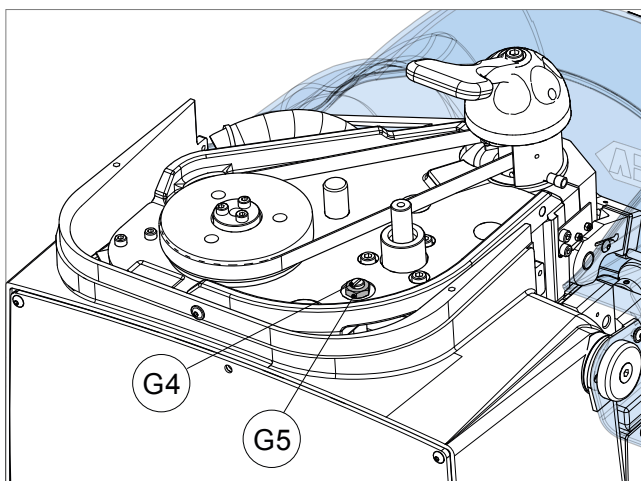


Fig. 50

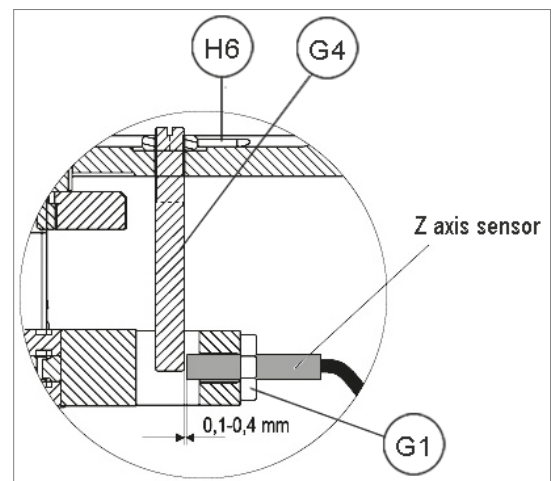


Fig. 51

8.10.3 REPLACING SENSOR FOR UPPER AXIS (X)

- 1) Switch off the machine and disconnect the power lead.
- 2) Raise the safety shield (V).
- 3) Disconnect the upper axis connection cable (H2) from the carriage.
- 4) Remove the upper axis carriage cover by loosening the 3 locking screws (H1) and pull out in the direction given.
- 5) Disconnect the sensor connector (H4).
- 6) Loosen the grub screw (H5) with the allen wrench provided.
- 7) Remove the faulty sensor (H3) and place the new sensor in position until it almost touches the pin below (H6) and tighten the grub screw (H5).
- 8) Connect the sensor connector (H4).
- 9) Replace the upper axis carriage cover.
- 10) Connect the upper axis cover cable (H2) to the carriage.

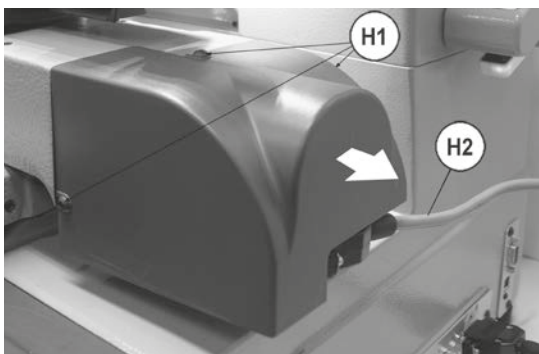


Fig. 52

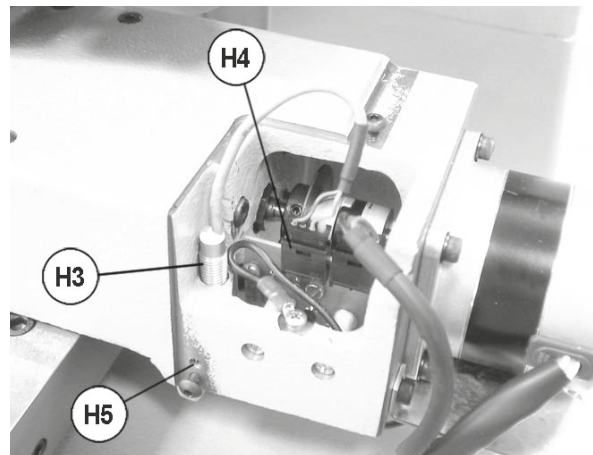


Fig. 53

Drawing references for SENSOR REPLACEMENT AND REGULATION (see MACHINE ZEROS).

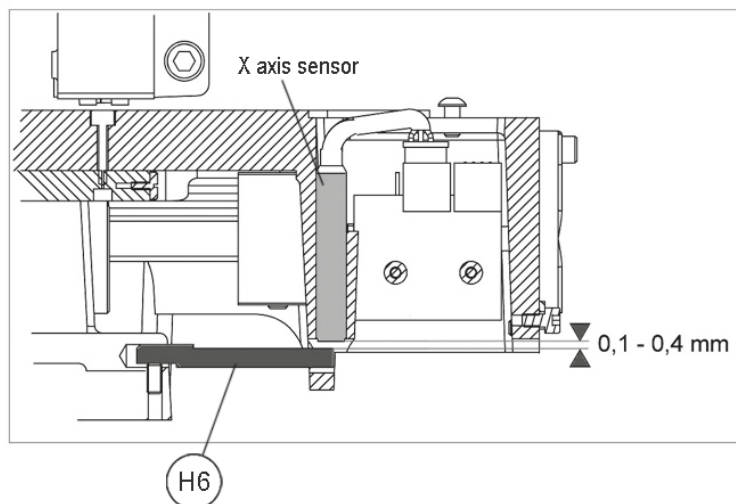


Fig. 54

8.11 PHOTOCELL REPLACEMENT

8.11.1 REPLACING PHOTOCELL FOR LOWER AXIS (Y)

- 1) Switch off the machine and disconnect the power lead.
- 2) Gain access to the rear compartment (Ch.8.5).
- 3) Loosen the 2 photocell fixing screws (I1) and remove.
- 4) Disconnect the photocell cable (I2).
- 5) Connect the cable to the new photocell.
- 6) Place the photocell in position and secure with the screws (I1).
- 7) Calibrate the machine (CALIBRATION FUNCTIONS).

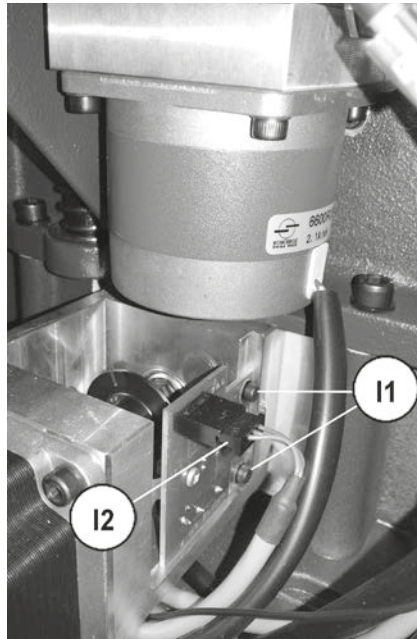
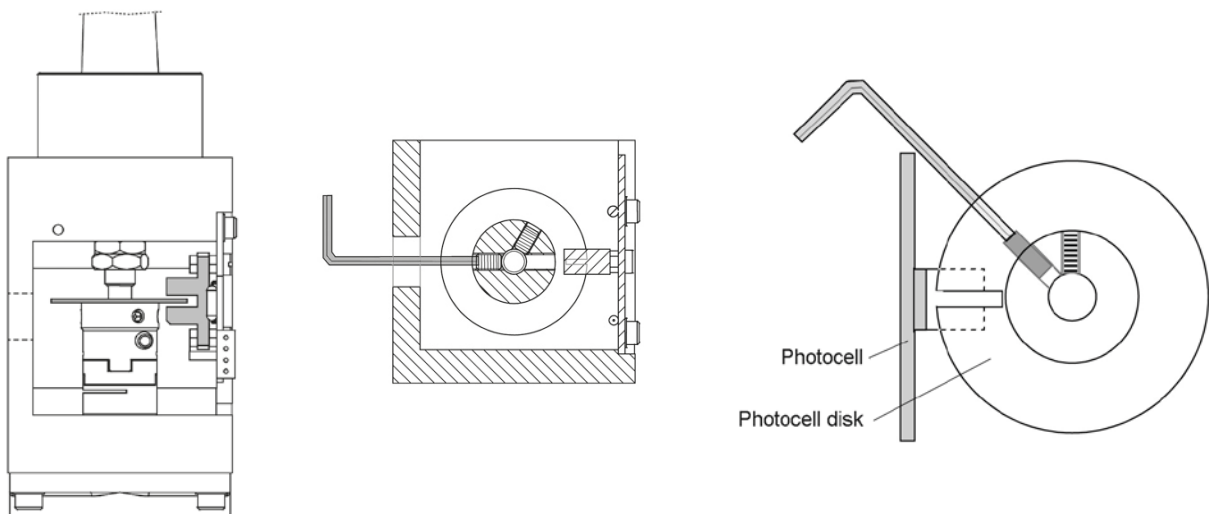


Fig. 55

REGULATION PHOTOCELL DISK (see MACHINE ZEROS)



8.11.2 REPLACING PHOTOCELL FOR UPPER AXIS (X)

- 1) Switch off the machine and disconnect the power lead.
- 2) Disconnect the upper axis connection wire (H2) from the carriage.
- 3) Remove the upper axis carriage cover by loosening the 3 locking screws (H1) and pull out in the direction given.
- 4) Disconnect the photocell cable (H6) and sensor cable (H3).
- 5) Loosen the screw (H8).
- 6) Loosen the 2 screws (H7) on the photocell support and pull out of carriage.
- 7) Place the new board in position on the carriage and tighten the 2 support screws (H7).
- 8) Connect the photocell cable (H6) and sensor cable (H3).
- 9) Connect the upper axis connection wire (H2) to the carriage.
- 10) Calibrate the machine (CALIBRATION FUNCTIONS).

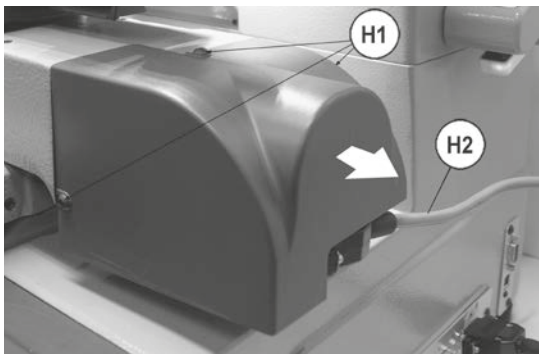


Fig. 56

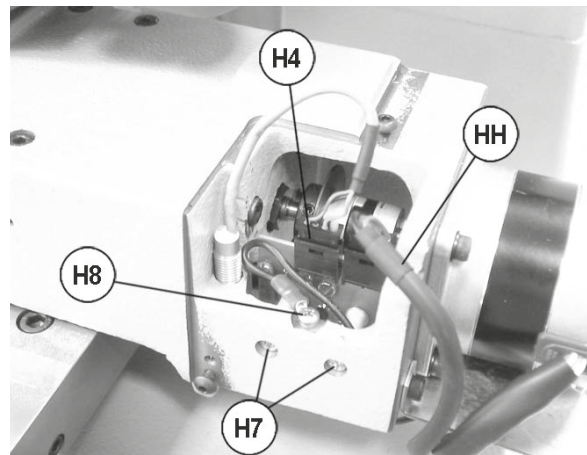
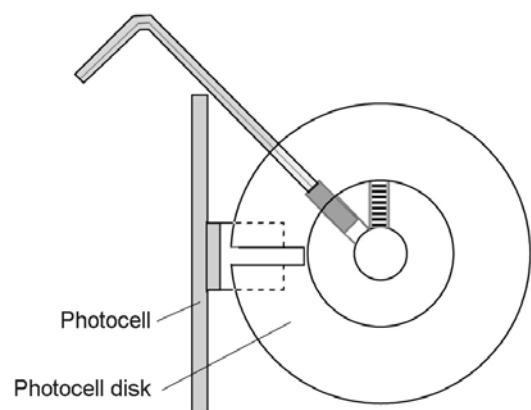
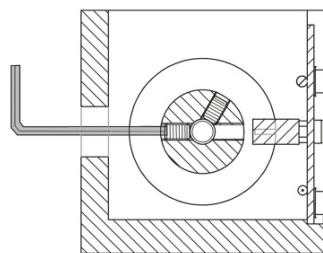
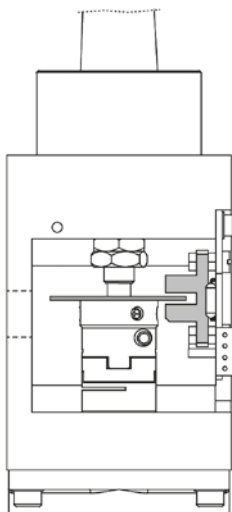


Fig. 57

REGULATION PHOTOCELL DISK (SEE MACHINE ZEROS)



8.11.3 REPLACING PHOTOCELL FOR VERTICAL AXIS (Z)

- 1) Switch off the machine and disconnect the power lead.
- 2) Gain access to the rear compartment (Ch.8.5).
- 3) Loosen the two screws (J1) and remove the microswitch support plate.
- 4) Disconnect the photocell and sensor cable (J3).
- 5) Loosen the 2 photocell fixing screws (J2) and remove.
- 6) Place the new photocell in position and secure with the screws (J2), connect the two cables (J3).
- 7) Replace the microswitch support plate and secure with the screws (J1).
- 8) Secure the rear metal plate.
- 9) Reconnect the power lead and Switch on the machine.
- 10) Calibrate the machine (see CALIBRATION functions).

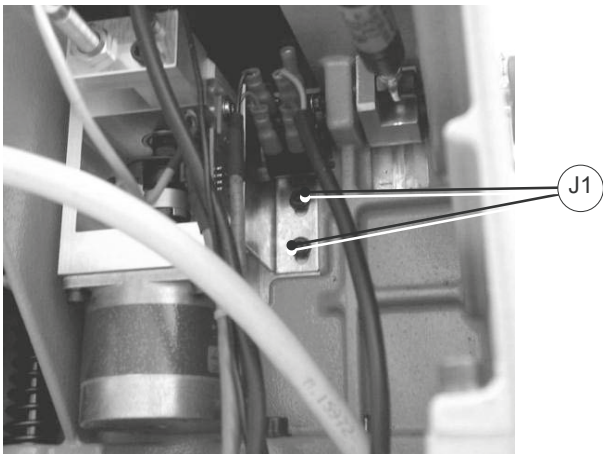


Fig. 58

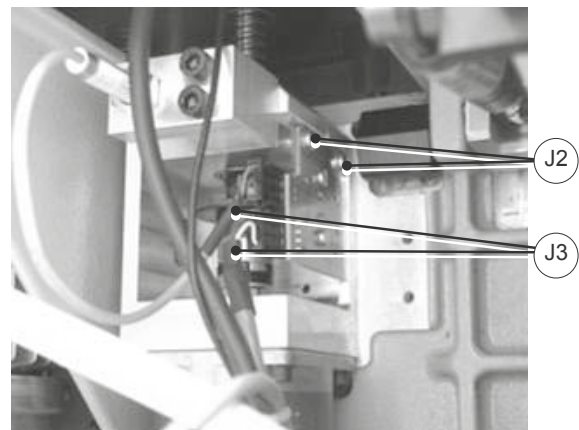
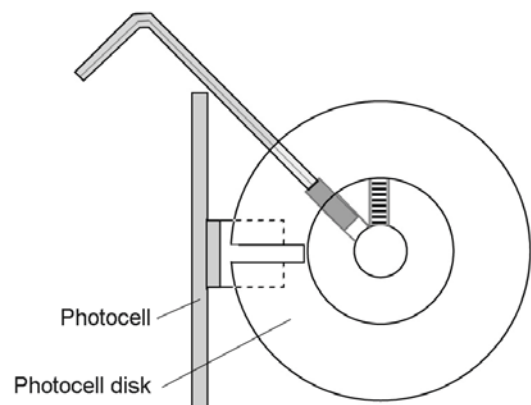
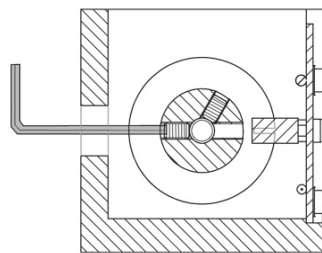
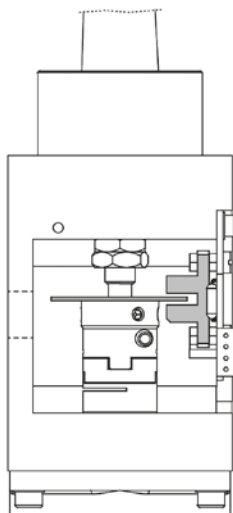


Fig. 59

REGULATION OF PHOTOCELL DISK (SEE MACHINE ZEROS)



8.12 ELECTRONIC CIRCUIT BOARD REPLACEMENT

- 1) Switch off the machine and disconnect the power lead.
- 2) Gain access to the bottom compartment (Ch.8.6).
- 3) Disconnect all the wires from the circuit board.
- 4) Loosen the nuts (N1) and remove the circuit board.
- 5) Fit the new board onto the threaded pins and tighten the nuts (N1).
- 6) Connect all the wires (each connector is polarized and its position cannot be changed).
- 7) Close the bottom compartment.
- 8) Carry out the calibration operations (see MACHINE ZEROS; CLAMP; AUTOMATIC CALIBRATION OF TRACER TOWER DEVICE).

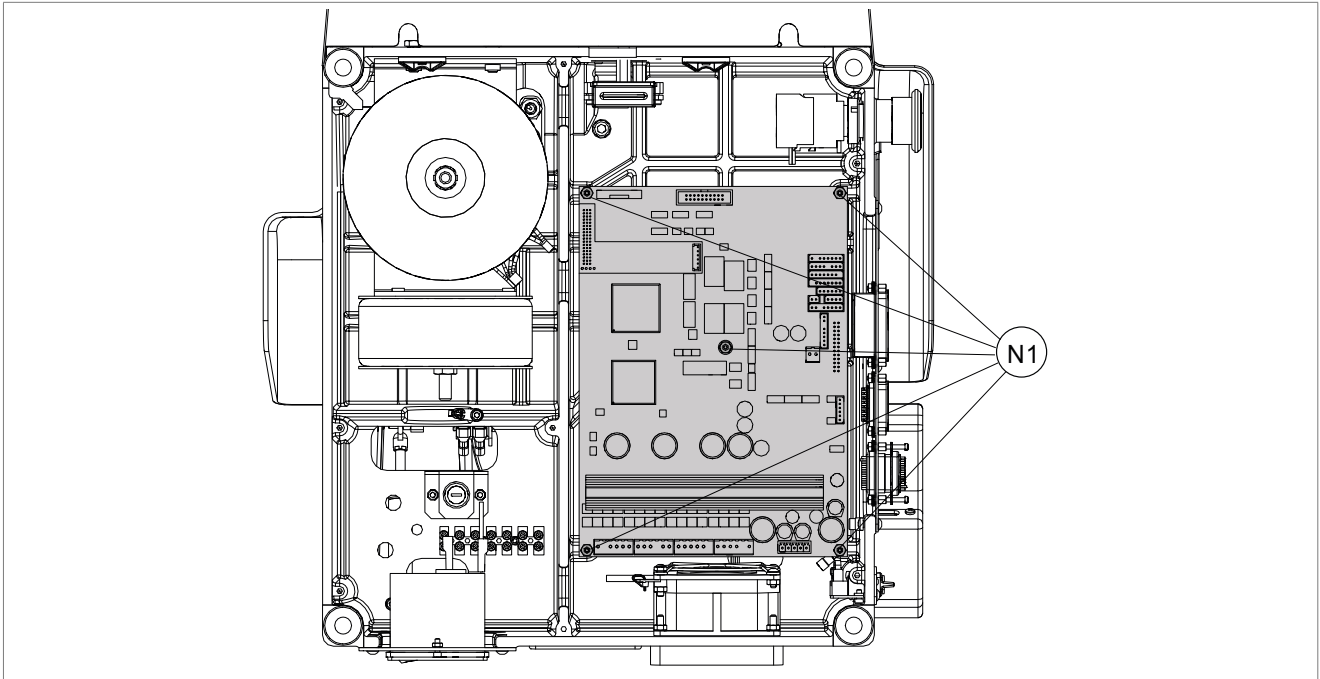


Fig. 60

8.13 MOTOR CIRCUIT BOARD REPLACEMENT

- 1) Switch off the machine and disconnect the power lead.
- 2) Gain access to the rear compartment (Ch.8.5).
- 3) Disconnect all the wires from the circuit board connectors.
- 4) Loosen the 3 fixing screws (M4).
- 5) Remove the circuit board and replace with a new one.
- 6) Tighten the three fixing screws (M4).
- 7) Connect all the wires to the circuit board connectors (each connector is polarized and its position cannot be changed).
- 8) Close the rear compartment.

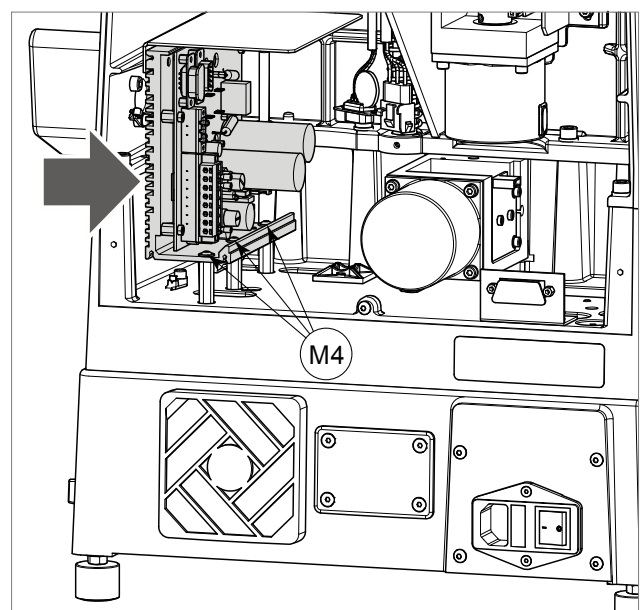


Fig. 61

8.14 CHECKING AND REGULATING SAFETY MICROSWITCHES

1) Switch off the machine and disconnect the power lead.

2) Gain access to the rear compartment (Ch.8.5).

3) Check the wires connecting the two microswitches (J4).

4) Check that the “Digital Inlets-Cover Micro” test is successful.

If not, check that the cam (J6) makes the two microswitches click. If necessary, regulate the cam as follows:

5) Remove the belt cover and lower the safety shield (V).

6) Use the 2.5mm T wrench to loosen the grub screw (J5).

7) Hold the wrench in the seat for the grub screw (J5), turn the cam (J6) until the microswitches click.

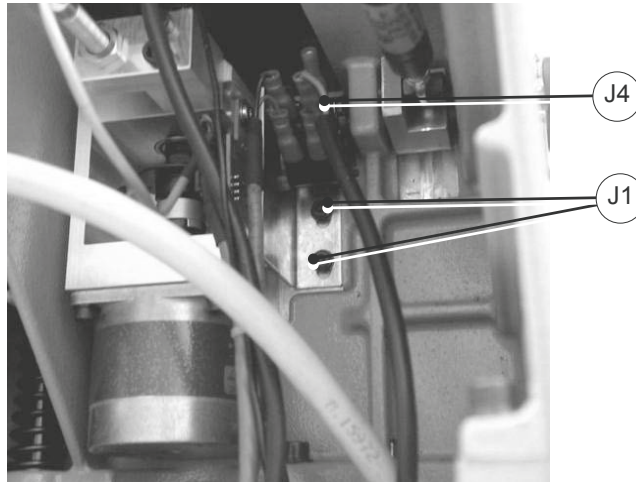


Fig. 62

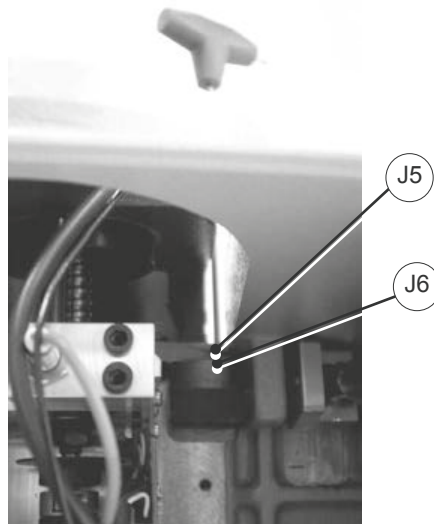


Fig. 63

8.15 SAFETY MICROSWITCH REPLACEMENT

- 1) Switch off the machine and disconnect the power lead.
- 2) Gain access to the rear compartment (Ch.8.5).
- 3) Loosen the two screws (J1) and remove the microswitch support plate (Fig. 62).
- 4) Disconnect the wires connecting the two microswitches (J4).
- 5) Loosen the two nuts (J7) and replace the faulty part.
- 6) Secure the microswitches with the two nuts and connect the two wires (the wire marked SX on the left and the wire marked DX on the right).
- 7) Replace the microswitch support plate with the screws (J1) without tightening them.
- 8) Adjust the position of the plate so that when the safety shield (V) is moved the microswitches click.
- 9) Secure the microswitch plate by tightening the screws (J1).

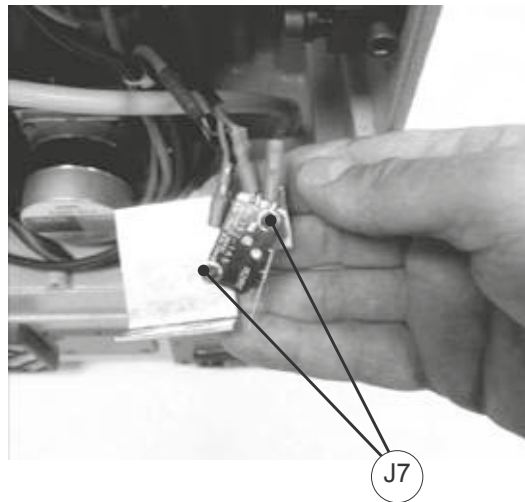


Fig. 64

8.16 REPLACING DECODER 04TT (TRACER TOWER)

- 1) Loosen the screw (K1).
- 2) Remove the broken decoder from its seat.
- 3) Place the new decoder in the seat and align with the top part of the TRACER TOWER .
- 4) Tighten the screw (K1).
- 5) Calibrate the Tracer Tower.

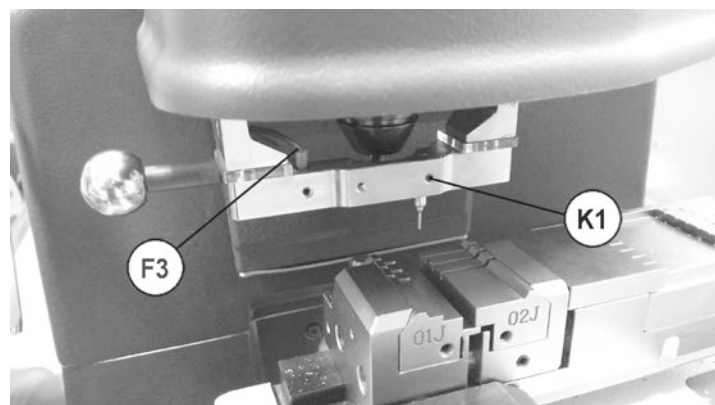


Fig. 65

8.17 TRACER TOWER MICROSWITCH REPLACEMENT

- 1) Gain access to the top compartment (Ch.8.4) and lower the protective shield (V).
- 2) Loosen the two screws (L1) and remove the microswitch support plate.
- 3) Disconnect the two wires (L2) on the microswitch.
- 4) Connect the two wires (L2) to the new microswitch.
- 5) Secure the support plate with the two screws (L1).
- 6) Before tightening the two screws (L1) adjust the position of the microswitch and check it with the special test.

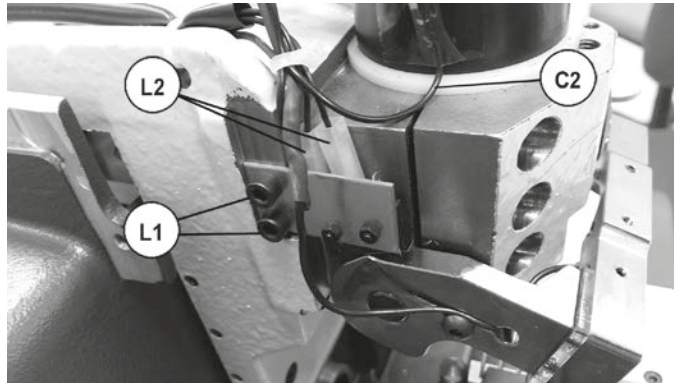


Fig. 66

8.18 BATTERY REPLACEMENT

Replacing the battery is a simple operation but must be carried out with care.

1) Switch off the machine and disconnect the power lead.

- 2) Gain access to the bottom compartment (see Ch.8.6).
- 3) Use pliers with insulated tips to grip the battery and pull it out, taking care to push towards the pressure tab to remove from its shaped housing.
- 4) Use the pliers with insulated tips to introduce the new battery, inclining it and pushing against the tab to help it enter the shaped housing.
- 5) Close up the machine and connect to the mains.
- 6) Reconfigure the date and time on the machine



ATTENTION: risk of explosion if battery is replaced by an incorrect type.

ATTENTION: for UTP version machines use the Date/Time synchronisation procedure (Ch.6.11.2)

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS (Ch.9 DISPOSAL)

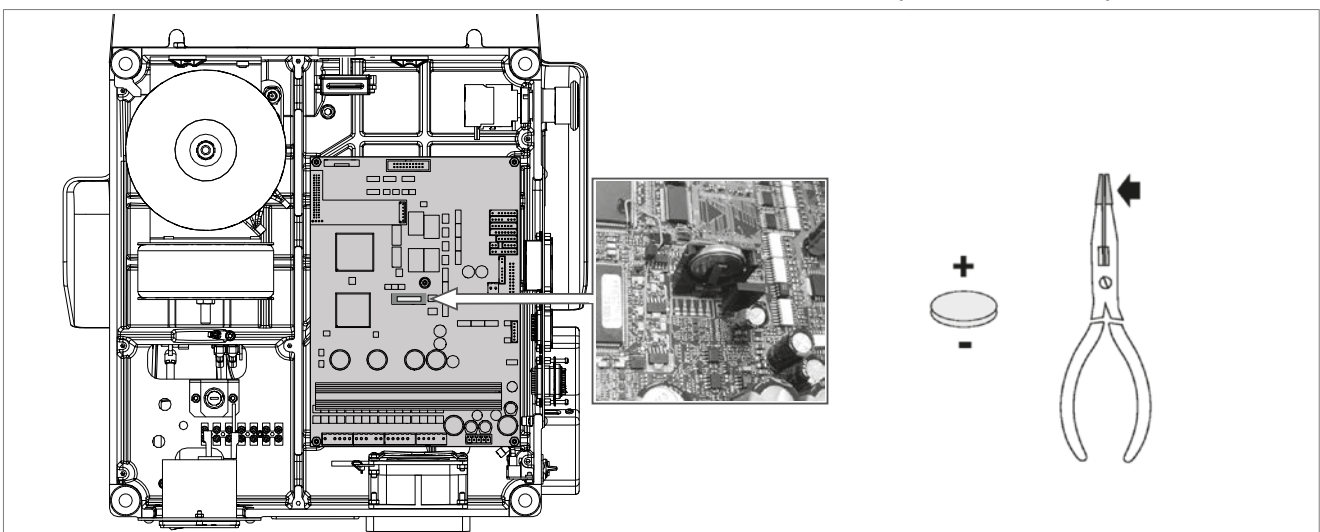


Fig. 67

9 DISPOSAL

For correct disposal please refer to current standards.

INFORMATION FOR USERS OF PROFESSIONAL EQUIPMENT



From “Actuation of Directive 2012/19/EU regarding Waste Electrical and Electronic Equipment (WEEE)”

The symbol of a crossed waste bin found on equipment or its packing indicates that at the end of the product’s useful life it must be collected separately from other waste so that it can be properly treated and recycled.

In particular, separate collection of this professional equipment when no longer in use is organised and managed:

- a) directly by the user when the equipment was placed on the market before 31 December 2010 and the user personally decides to eliminate it without replacing it with new equivalent equipment designed for the same use;
- b) by the manufacturer, that is to say the subject which was the first to introduce and market new equipment that replaces previous equipment, when the user decides to eliminate equipment placed on the market before 31 December 2010 at the end of its useful life and replace it with an equivalent product designed for the same use. In this latter case the user may ask the manufacturer to collect the existing equipment;
- c) by the manufacturer, that is to say the subject which was the first to introduce and market new equipment that replaces previous equipment, if it was placed on the market after 31 December 2010;

With reference to portable batteries/accumulators, when such products are no longer in use the user shall take them to suitable authorised waste treatment facilities.

Suitable separate collection for the purpose of forwarding discarded equipment and batteries/accumulators for recycling, treatment or disposal in an environmentally friendly way helps to avoid possible negative effects on the environment and human health and encourages re-use and/or recycling of the materials making up the equipment.

To remove batteries/accumulators, consult the manufacturer’s specific instructions: (see relevant chapter in the users’ manual)

The sanctions currently provided for by law shall apply to users who dispose of equipment, batteries and accumulators in unauthorised ways.

10 AFTER-SALES SERVICE

Silca provides full service to purchasers of the TRIAX PRO machine. To ensure total safety for the operator and the machine, any operations not specified in this manual shall be carried out by the manufacturer or in the special Service Centres recommended by Silca.

On the back cover of the manual there is a list of the manufacturer's addresses; the following page lists the addresses of specialized Service Centres.

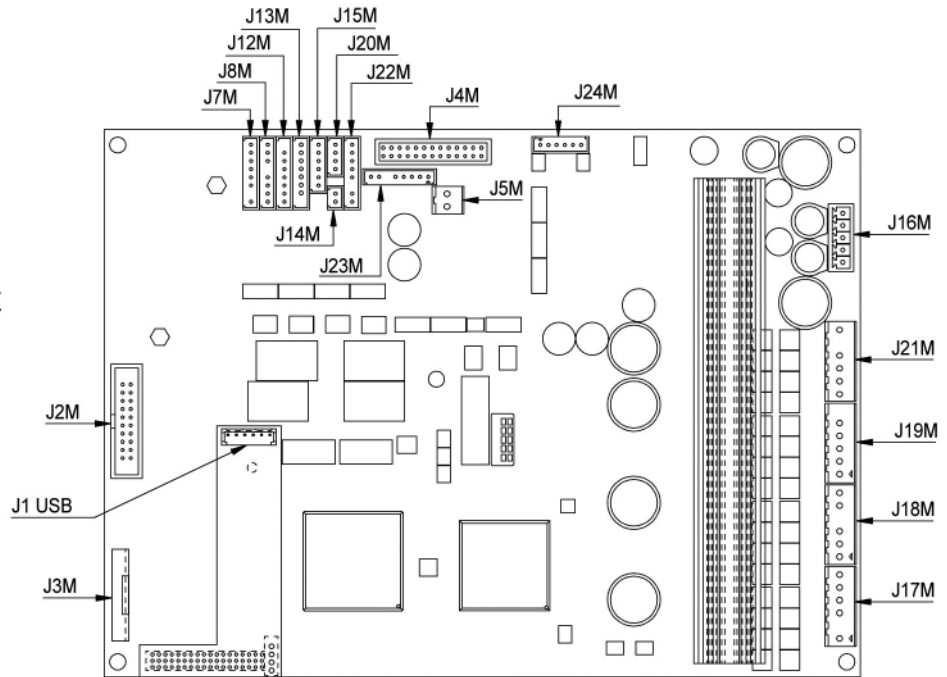
10.1 HOW TO APPLY FOR AFTER-SALES SERVICE

The warranty attached to the TRIAX PRO machine guarantees free repairs or replacement of faulty parts within 24 months of purchase. Any other operation shall be agreed by the user with Silca or its Service Centres.

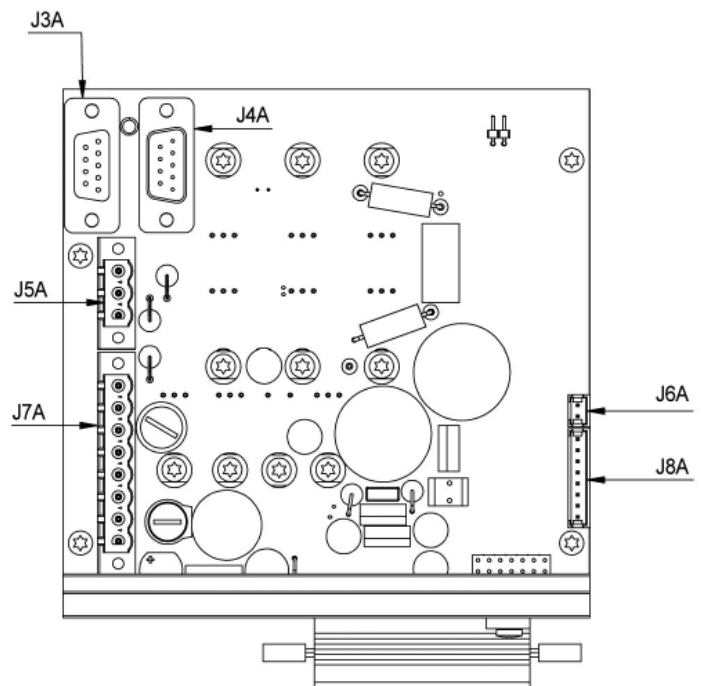
TRIAx PRO

**ELECTRICAL DIAGRAMS - SCHEMI ELETTRICI - ELEKTRISCHE SCHALTPLANE
 SCHEMAS ELECTRIQUE - ESQUEMAS ALAMBRICOS - ESQUEMAS ELÉCTRICOS
 ELEKTRISCHE TEKENINGEN**

ELECTRONIC BOARD
 SCHEDA ELETTRONICA
 ELEKTRONISCHE KARTE
 CARTE ELECTRONIQUE
 TARJETA ELECTRONICA



MOTOR START-UP CARD
 SCHEDA AZIONAMENTO MOTORE
 MOTOR START KARTE
 CARTE DEMARRAGE MOTEUR
 TARJETA PUESTA EN MARCHA MOTOR



230V - 50Hz
 120V - 60Hz
 100V - 50/60Hz

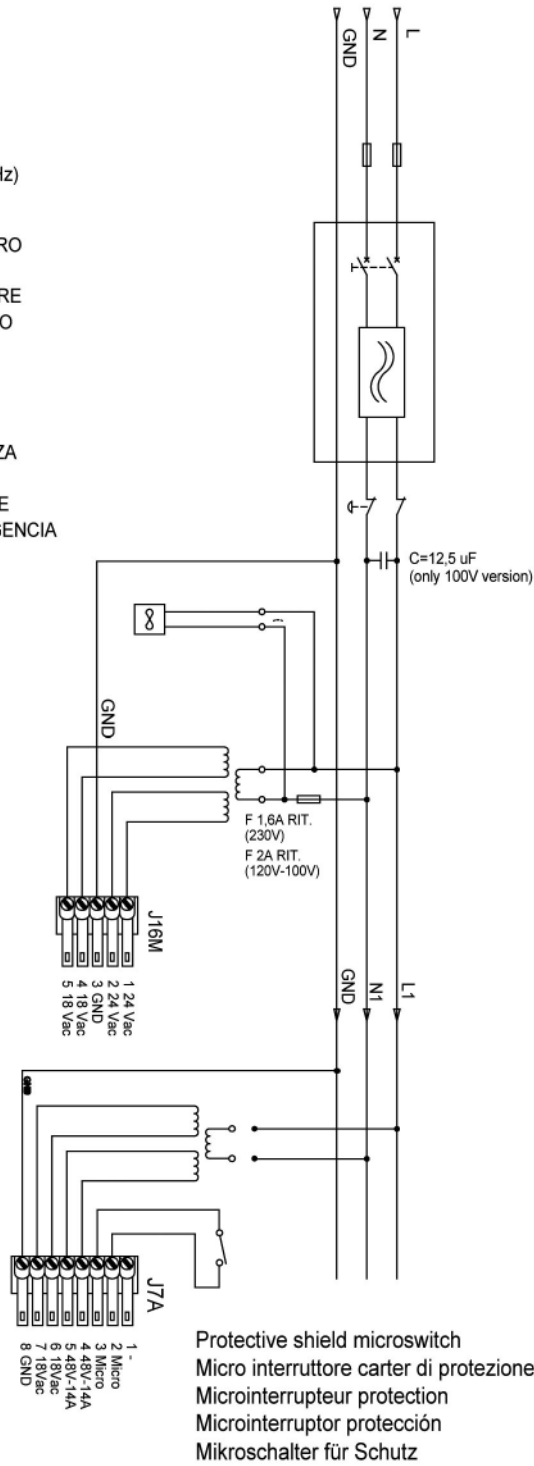
F 4A RIT. (230V-50Hz)
 F 5A RIT. (120V-60Hz)
 F 6,3A RIT. (100V-50/60Hz)

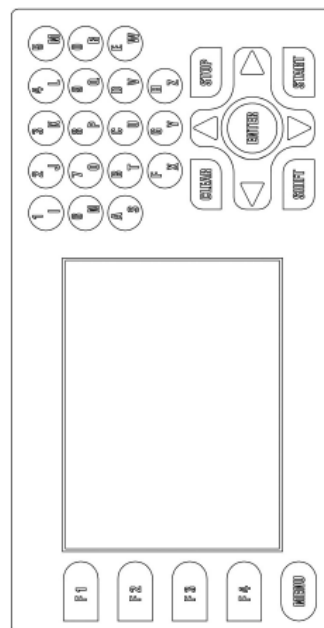
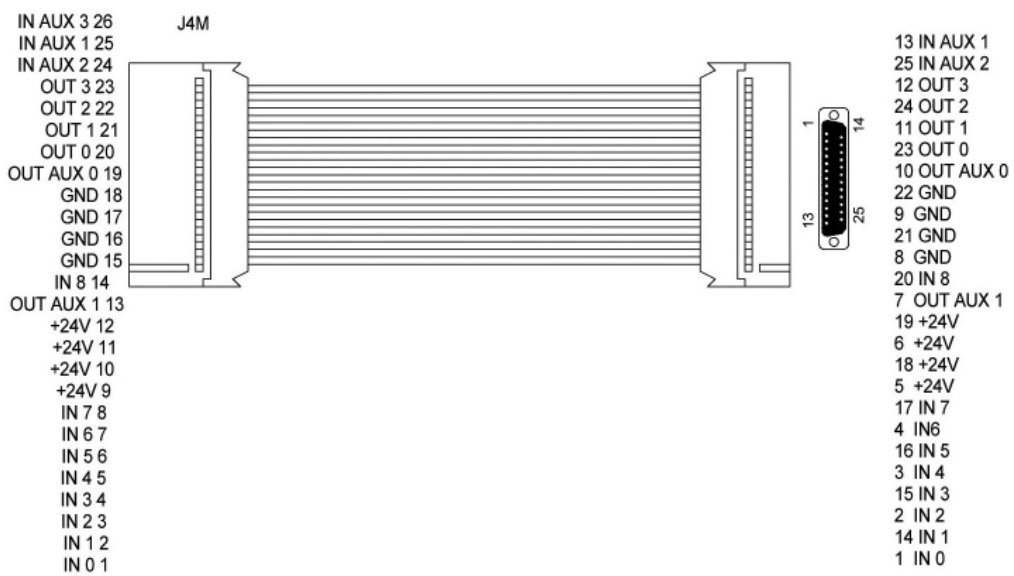
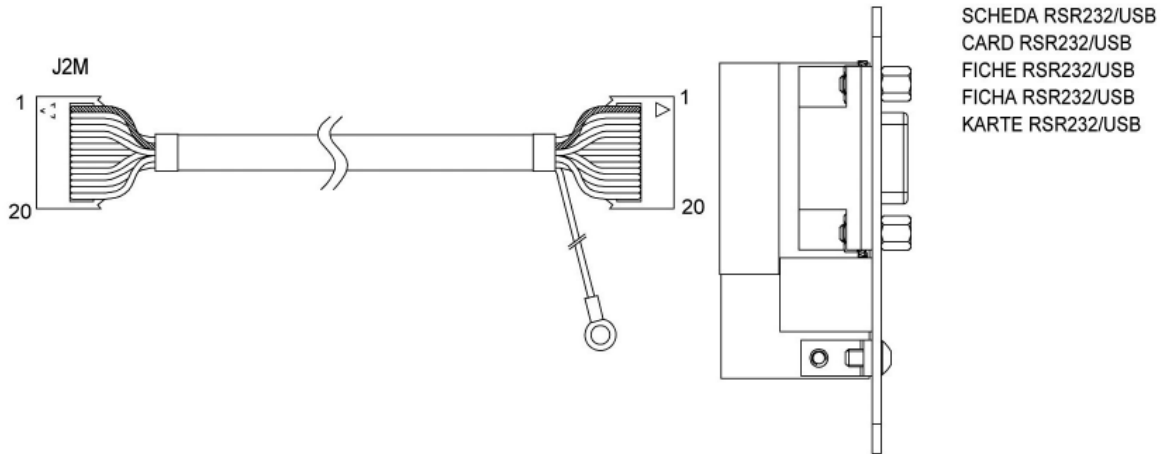
INTERRUTTORE + FILTRO
 SWITCH + FILTER
 INTERRUPTEUR + FILTRE
 INTERRUPTOR + FILTRO
 SCHALTER + FILTER

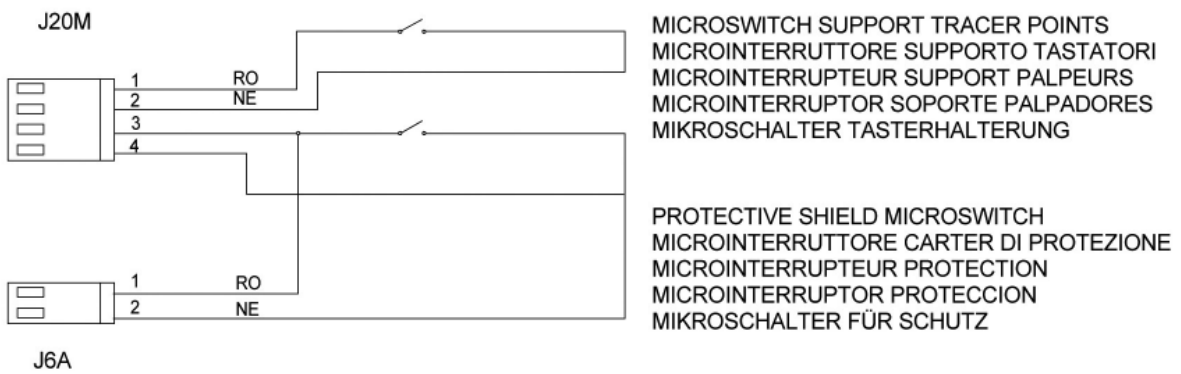
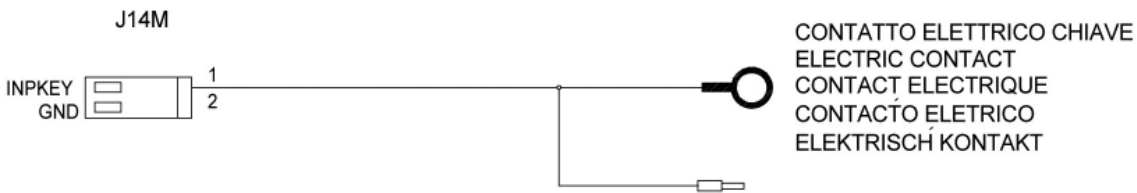
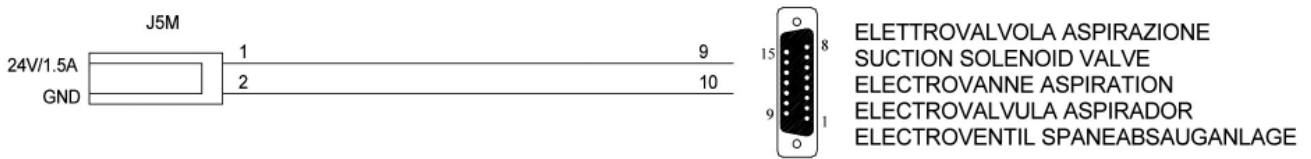
PULSANTE EMERGENZA
 EMERGENCY BUTTON
 POUSSOIR D'URGENCE
 PULSADOR DE EMERGENCIA
 NOTSTOPTASTE

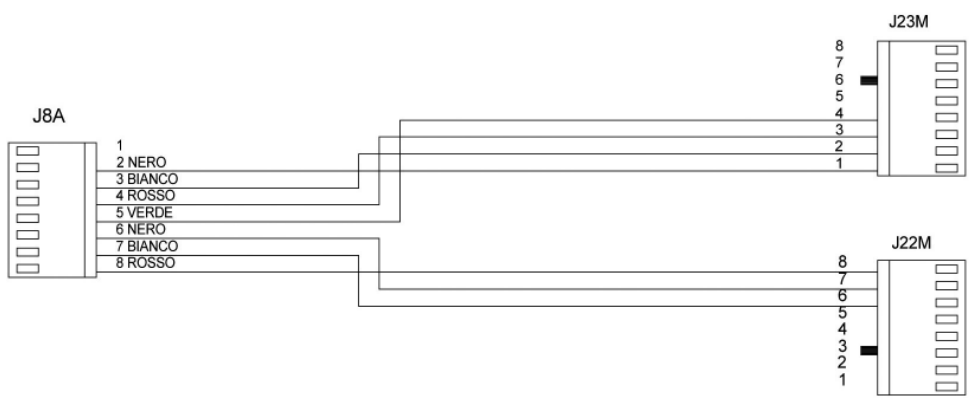
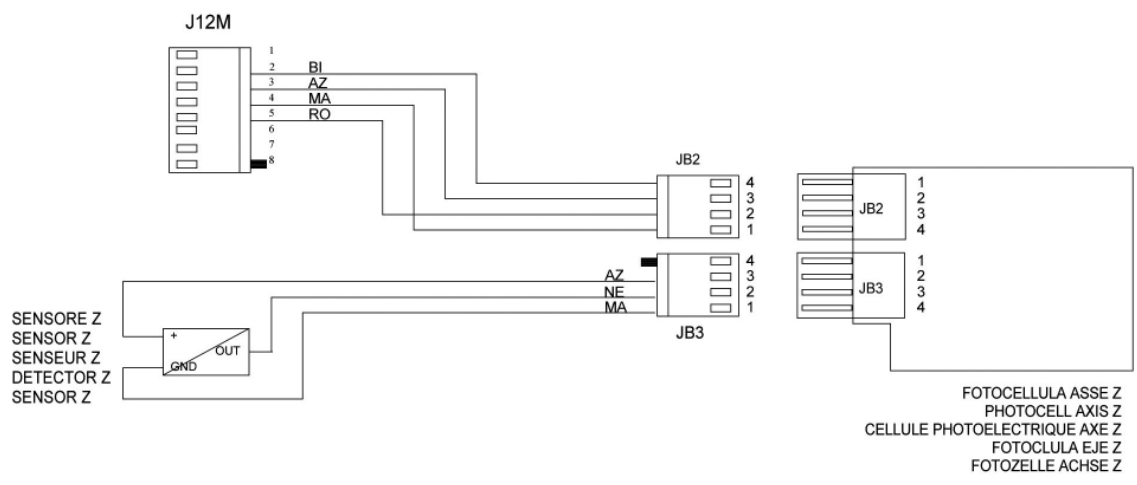
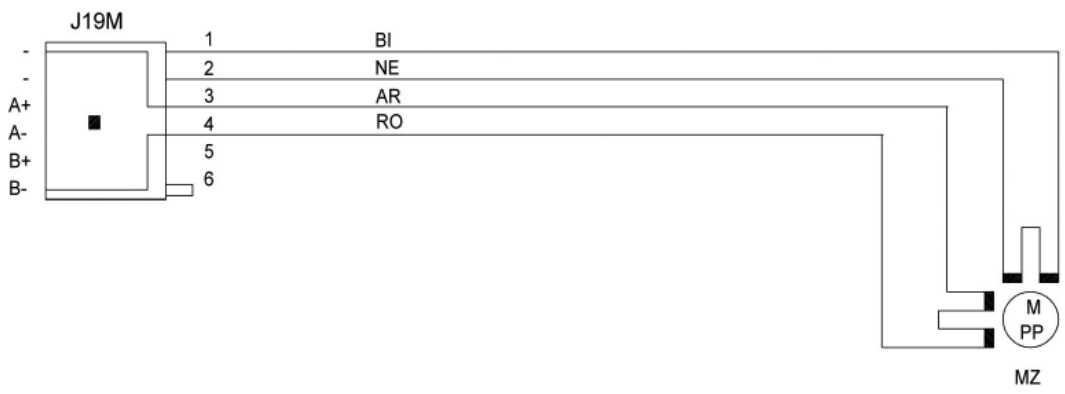
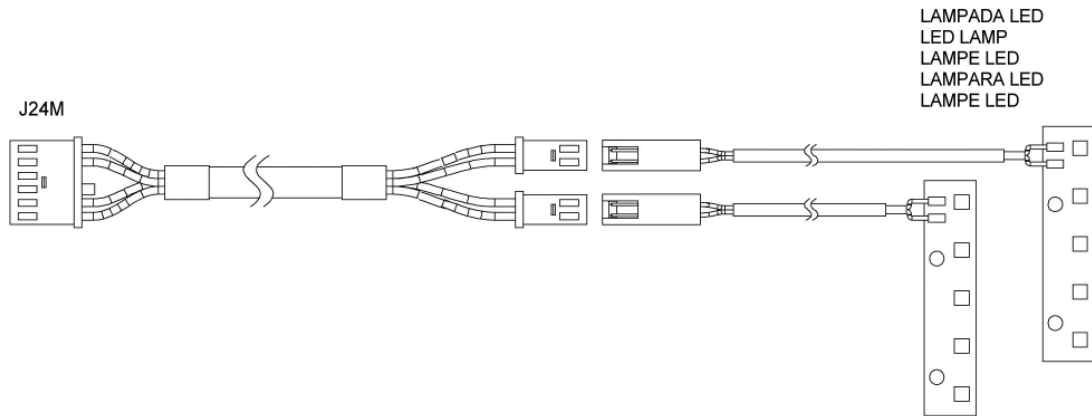
VENTILATORE
 FAN
 VENTILATEUR
 VENTILADOR
 VENTILATOR

TRASFORMATORE
 TRANSFORMER
 TRANSFORMATEUR
 TRANSFORMADOR
 TRANSFORMATEUR

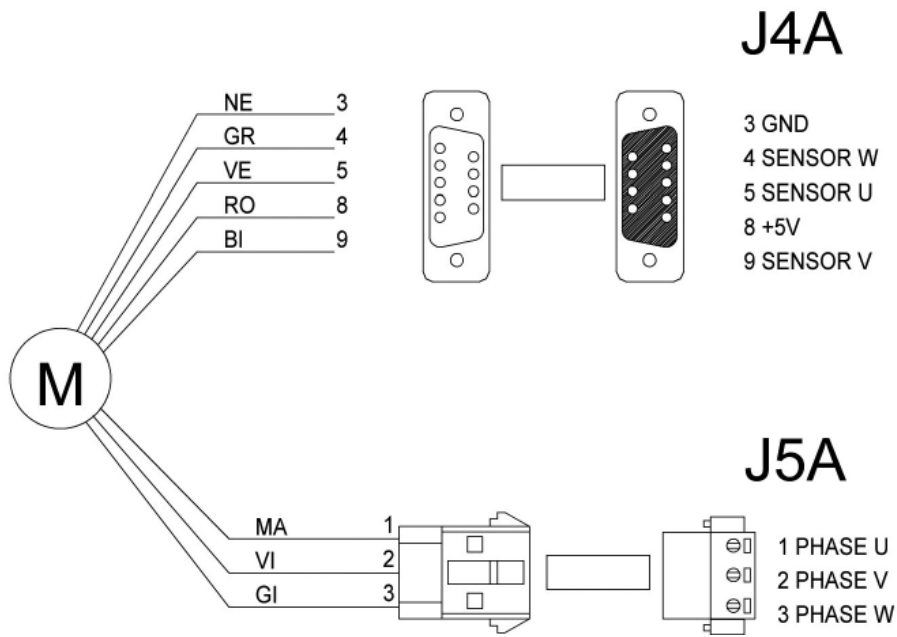








SPINDLE MOTOR
 MOTORE MANDRINO
 MOTEUR MANDRIN
 MOTOR MANDRIL
 SPINDELMOTOR





VITTORIO VENETO 25/02/2016

CE DECLARATION OF MACHINE COMPLIANCE

**SILCA S.p.A. - VIA PODGORA 20 (Z.I.)
31029 VITTORIO VENETO (TV) - (ITALY)
TEL. 0438 9136 - FAX. 0438 913800**

Declares under its own responsibility that the **Key-cutting machine** model

TRIAx PRO

complies with the requirements of the following European Directives:

European Union **DIRECTIVE 2006/42/CE** (Machines)
and with the EN ISO 12100:2010
EN ISO 13849-1:2008
EN ISO 13849-2:2012 Standards

European Union **DIRECTIVE 2004/108/CE** (Electromagnetic Compatibility)
and with the EN 55022 :2010
EN 55032:2012
EN 55024 :2010
EN 61000-3-2 :2014
EN 61000-3-3 :2013 Standards

European Union **DIRECTIVE 2006/95/CE** (Low Voltage) **|16 |**
and with the EN 60950-1 :2006 + A11 :2009 + A1 :2010 + A12 :2011 + A2 :2013
EN 62233: 2008 Standards

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Società soggetta a direzione e coordinamento di Kaba Holding AG, con sede in Rümlang (Svizzera),
Hofwisenstrasse 24, ai sensi e per gli effetti degli articoli 2497 - 2497sexies del Codice Civile.





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