

***USE AND MAINTENANCE MANUAL***

***KEY CUTTING MACHINE***

***“BIANCHI 106”***



Code: B404895FG  
Version 0.3  
Printed June 2014

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"TRANSLATION OF ORIGINAL INSTRUCTIONS"



**DICHIARAZIONE CE DI CONFORMITÀ**  
**(ALL. IIA DIR. 2006/42/CE)**

**CE CONFORMITY DECLARATION**  
**(ATTACHMENT II, POINT "A" DIR. 2006/42/CE)**

**IL FABBRICANTE**

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**DICHIARA CHE LA MACCHINA**

- Denominazione generica: DUPLICATRICE CHIAVI
- Modello: BIANCHI 106
- Matricola:
- Anno:
- Rev.: 00
- Denominazione commerciale: MACCHINA DUPLICATRICE
- Uso previsto: La duplicatrice è stata progettata e costruita per effettuare la duplicazione di chiavi.

**DECLARES THAT THE MACHINE**

- General name: KEY DUPLICATING MACHINE
- Machine type: BIANCHI 106
- ID number:
- Year:
- Rev.: 00
- Commercial name: DUPLICATING MACHINE
- Intended use: The key cutting machine has been designed and built for duplicating keys.

**È CONFORME ALLE DIRETTIVE**

- Direttiva 2006/42/CE del Parlamento Europeo e del Consiglio del 17 maggio 2006 relativa alle macchine.
- Direttiva 2004/108/CE del Parlamento Europeo e del Consiglio del 15 dicembre 2004 concernente il riavvicinamento delle legislazioni degli Stati membri relative alla compatibilità elettromagnetica.

**CONFIRMS WITH THE FOLLOWING DIRECTIVES**

- Directive 2006/42/CE of the European Parliament and Council of 17 May 2006 concerning machinery.
- Electromagnetic Compatibility Directive 2004/108/CE of the European Parliament and Council of 15 December 2004 concerning the harmonisation of member states' legislation regarding electromagnetic compatibility.

**E AUTORIZZA**

- Nominativo: Keyline S.p.A.
- Indirizzo: Via Camillo Bianchi
- CAP: 31015
- Provincia: TV
- Città: Conegliano
- Stato: Italia

**AND AUTHORISES**

- Name: Keyline S.p.A.
- Address: Via Camillo Bianchi
- Post code: 31015
- Province: TV
- Town: Conegliano
- Country: Italia

**A COSTITUIRE IL FASCICOLO TECNICO PER SUO CONTO**

**TO COMPILE THE TECHNICAL DOSSIER ON OUR BEHALF**

**Luogo e data del documento:**

Conegliano,

**Place & Date:**

Conegliano,

**Legale Rappresentante:**

**Legal representative:**



## WARRANTY CONDITIONS

1. Keyline S.p.A. guarantees the good operation of the machine for a period of 24 months from the purchase date, and undertakes to replace (if necessary, with a more recent model) or repair the machine or its individual components in case of defects in workmanship. This warranty does not cover any defects or damages caused by the user because of negligence, or by repairs, replacement of individual components or maintenance carried out by operators not authorized by Keyline S.p.A., or by any circumstance not under the control of Keyline S.p.A. The industrial use of the machines is regulated by the provisions of Art. 7 below.
2. Any repair or replacement expenses, except transport costs, shall be borne by Keyline S.p.A. Parts subject to normal wear and tear, such as cutters, clamps, brushes, and tracers, are not covered by this warranty.
3. Keyline S.p.A. reserves the right to refuse free service when the requested documents (purchase invoice stating the machine serial number) are not provided or when the information is incomplete, illegible or incompatible with the manufacturing data.
4. At Keyline S.p.A.'s sole discretion, repairs may include the updating of some details and the replacement of components with equivalent parts, new or refurbished. The replaced components and accessories are guaranteed for the residual duration of the original warranty. Replacement of the product or of a part does not extend or restart the warranty period.
5. If a machine still under warranty is equipped with non-original accessories, Keyline S.p.A. shall not be liable for any malfunction and the warranty shall be considered void.  
Keyline S.p.A. does not guarantee the correct operation of the product/machine combination, if the machine is used together with non-original accessories or equipment, and, consequently, shall not accept requests for service under the warranty.  
In order to make use of this warranty, the customer undertakes to notify Keyline S.p.A. of any defect covered by the warranty within 30 days from its manifestation, on pain of this warranty becoming void. In case of non-compliance, for any reason, of this term, the one provided for by Art. 1495 CC will be applied.

### General exclusions

6. The following items are excluded from the warranty:
  - Components subject to normal wear and tear or deterioration as a consequence of a normal use of the product and defects originated by the same cause.
  - Product defects that can be led back to non-compliance with the instructions for use, incorrect use, anomalous environmental conditions, non-compliant operating conditions, lack of maintenance or care or industrial use of the machine without service.
  - Defects or damages due to transport, humidity, liquids or infiltrations caused by the incorrect use of the product.
  - Defects due to an incorrect preservation of the product on unsuitable or inappropriate environmental conditions which differ from the technical specifications of the product, from the instructions for use, from the installation guide;
  - Scratches or damages to the surfaces and external parts caused by the normal use of the Product by the customer.
  - Defects of the key cutting machine due to the use of non-original Keyline S.p.A. accessories or spare parts.
  - Products that have been altered or integrated with no previous agreement.
  - Minimal anomalies of the product's characteristics that do not compromise its value and performance.

Except for the right to the elimination of any of the defects mentioned in these warranty terms and conditions, any other rights are explicitly excluded.

Keyline S.p.A. refuses any liability for injury to persons and components deriving from lacking grounding or improper use of the product.

7. Machines subject to industrial use that exceed the set number of work cycles during the validity of the warranty must be subjected to regular maintenance, carried out exclusively by Keyline S.p.A. staff; the costs of regular maintenance are borne by the customer. If no maintenance is carried out, the warranty is to be considered null and void as at the moment in which the machine exceeds the number of work cycles declared by Keyline S.p.A.

The number of cycles that determines the definition of a machine for industrial use is 10,000 cycles per year.

Transportation is left to the user to arrange, who may choose the carrier. Transportation costs and risks are borne by the customer.

### Competent court

8. Shall any dispute arise in relation to the validity, interpretation, execution, dissolution or non-fulfilment of this document, the court of competent jurisdiction is located in Treviso, Italy.

## CONDIZIONI DI GARANZIA

1. Keyline S.p.A. garantisce al Cliente il buon funzionamento della macchina per un periodo di 24 mesi dalla data di acquisto e si impegna a sostituire (eventualmente anche con modello successivo) o riparare la macchina, o i singoli componenti, qualora vengano riscontrati difetti di funzionamento all'origine.  
Non sono coperti da garanzia i difetti o i danni causati dall'utente a seguito di negligenza nell'uso, ovvero causati da riparazioni, sostituzione di singoli componenti, manutenzioni effettuate da soggetti non autorizzati da Keyline S.p.A., ovvero da qualsivoglia circostanza indipendente da Keyline S.p.A. Per l'uso industriale delle macchine vale quanto stabilito al successivo art.7.
2. Le spese di riparazione o sostituzione della macchina sono a carico di Keyline S.p.A., escluse quelle di trasporto. Sono esenti da garanzia le parti soggette ad usura, quali frese, morsetti, spazzole e tastatori.
3. Keyline S.p.A. si riserva il diritto di rifiutare l'assistenza gratuita se la documentazione richiesta (fattura di acquisto riportante il numero di matricola della macchina) non venisse fornita o se le informazioni fossero incomplete, illeggibili o incompatibili con i dati di fabbrica.
4. La riparazione, a discrezione di Keyline S.p.A., può comprendere l'aggiornamento di alcuni particolari e la sostituzione di componenti di equivalente funzionalità, nuovi o riparati. I componenti e gli accessori sostituiti, vengono garantiti per il periodo residuo di durata della garanzia originaria. Il periodo di garanzia non verrà pertanto in alcun modo esteso.
5. Nel caso in cui una macchina coperta da garanzia monti accessori non originali, Keyline S.p.A. non risponderà degli eventuali malfunzionamenti della macchina e la garanzia si intenderà decaduta.  
Quando il prodotto è utilizzato insieme ad accessori o attrezzature non originali, Keyline S.p.A. non garantisce il corretto funzionamento della combinazione prodotto/accessorio, pertanto Keyline S.p.A. non accetterà richieste di intervento in garanzia.  
Il cliente, per avvalersi della presente garanzia, s'impegna, a pena di decadenza, a denunciare a Keyline S.p.A. ogni vizio di funzionamento coperto dalla stessa entro 30 giorni dall'evidenza. In ipotesi di mancata applicabilità, per qualsiasi ragione, di tale termine varrà quello previsto dall'art. 1495 CC.

### Esclusioni dalla garanzia

6. Sono esclusi dalla garanzia:
  - Componenti soggetti ad usura naturale o deterioramento dovuto all'uso normale e difetti del prodotto riconducibili alle stesse cause.
  - Difetti del prodotto riconducibili all'inosservanza delle istruzioni per l'uso, ad un uso improprio, a condizioni ambientali anomale, a condizioni di funzionamento non conformi, mancata manutenzione o cura, un uso industriale senza tagliando di controllo.
  - Difetti o danni dovuti al trasporto, ad umidità, liquidi o infiltrazioni causate da un non corretto utilizzo del prodotto.
  - Difetti dovuti a una non corretta conservazione del prodotto in condizioni ambientali inadatte o inappropriate che differiscono dalle specifiche tecniche del prodotto, dalle istruzioni operative, dalla guida d'installazione;
  - Graffi o danni ad ogni superficie e ad ogni altra parte esterna, causate dal normale utilizzo del Prodotto da parte del Cliente.
  - Difetti della duplicatrice provocati dall'utilizzo di accessori o ricambi non originali Keyline S.p.A.
  - Prodotti su cui sono state eseguite modifiche o integrazioni non previste.
  - Anomalie di minima entità delle caratteristiche del prodotto che non inficiano il valore e le prestazioni della macchina.

Altri diritti, diversi dal diritto all'eliminazione dei difetti della macchina citato nelle presenti condizioni di garanzia, non trovano applicazione.

Keyline S.p.A. declina ogni responsabilità per danni a persone o a cose derivanti dalla mancata messa a terra o all'uso improprio del prodotto.

7. Le macchine soggette ad un uso industriale che superano all'interno del periodo di garanzia il numero di cicli stabilito, devono essere sottoposte alla Manutenzione periodica del prodotto, eseguita esclusivamente da personale Keyline S.p.A.; il costo della manutenzione periodica è a carico del cliente. In caso contrario, la garanzia decade al superamento dei cicli dichiarati da Keyline S.p.A.

I numeri di cicli stabiliti per la definizione di macchine ad uso industriale è di 10.000 cicli annui.

Il trasporto è a cura dell'utente che potrà scegliere il vettore che ritiene più opportuno. I costi e i rischi di trasporto sono a carico dell'utente stesso.

### Foro competente

8. Per ogni controversia che dovesse sorgere in relazione alla validità, interpretazione, esecuzione, risoluzione o inadempimento del presente documento sarà competente in via esclusiva il Foro di Treviso.



*Gentile Cliente,*

*Desideriamo congratularci con Lei per aver scelto un prodotto Keyline.*

*Keyline ripone la massima cura e attenzione per realizzare prodotti dalla meccanica di precisione, capaci di distinguersi per le performance di utilizzo e pensati per garantire un uso sempre facile e intuitivo.*

*La preghiamo comunque di ricordare che anche questa macchina duplicatrice Keyline, come qualsiasi strumento di lavoro, richiede di acquisire un minimo livello di preparazione tecnica prima di poterne sfruttare appieno le potenzialità.*

*Sarà quindi essenziale leggere attentamente questo manuale prima di iniziare ad utilizzare la Sua nuova macchina duplicatrice Keyline. Al suo interno potrà trovare una serie di informazioni che le permetteranno di apprendere come farla funzionare in piena sicurezza e di svolgere nel migliore dei modi il Suo lavoro.*

*Per garantire la massima protezione e una maggiore durata della Sua macchina duplicatrice, La invitiamo a prestare attenzione a tutte le istruzioni per l'uso e alle avvertenze contenute in questo manuale. Ignorarle può causare un guasto meccanico o il malfunzionamento della macchina duplicatrice.*

*Non ci resta che augurarLe buon lavoro con la Sua nuova macchina duplicatrice Keyline.*

*Dear Customer,*

*thank you for choosing a Keyline product.*

*Keyline is particularly careful and determined to create precision mechanical equipment that excels in terms of performance and is very easy to use.*

*Please remember that this Keyline key-cutting machine, like any work tool, requires some technical training in order for its full potential to be developed.*

*It is therefore essential to read this manual carefully before starting to use your new Keyline key-cutting machine. The manual contains a lot of information on the safe use of the machine that will allow the user to work at optimal levels.*

*To guarantee maximum protection and a long life for your key-cutting machine, please follow all the instructions for use and warnings contained in this manual. Failing to do so may cause mechanical failure of the malfunction of the key-cutting machine.*

*We wish you a pleasant work experience with your new Keyline key-cutting machine.*



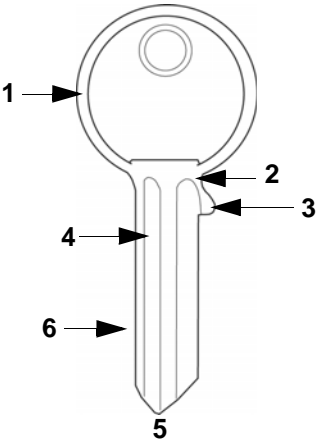


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GLOSSARY

1	Bow	
2	NECK	
3	SHOULDER	
4	STEM (SHANK)	
5	TIP	
6	BACK	
	KEY SAMPLE	The “original” key from which, through biting, a duplicate key is obtained.
	KEY BLANK	A key with no engraving that is cut following the profile of the key sample.

The user's and maintenance manual of the key cutting machine "BIANCHI 106" for **flat cylinder door and car keys and cruciform key** (henceforth "**key cutting machine**") contains all operation instructions on how to use the machine at best while guaranteeing the safety of operators.

## 1.0.1 SCOPE AND CONTENTS OF THE MANUAL

This manual provides basic information on the installation, operation and maintenance of the key-cutting machine.

It is addressed to machine operators and it enables them to use the machine efficiently, even if they do not have any previous specific knowledge of it.

This manual describes the characteristics of the machine at the time it is being put on the market; therefore it may not capture later technological improvements introduced by Keyline S.p.A. as part of its constant endeavour to enhance the performance, ergonomics, safety and functionality of its products.

Keyline S.p.A., reserves the right not to update the manuals of previous versions of the machine. Users must follow the instructions contained in this manual scrupulously, especially those concerning safety norms and ordinary maintenance.

## 1.0.2 HOW TO KEEP THE MANUAL

The manual must be stored in a safe place, away from dust and moisture and it must be accessible to all users who shall consult it any time they are in doubt on how to operate the machine.

Keyline S.p.A. reserves the right to modify its production and related manuals without necessarily updating previous versions of the reference materials. The customer shall store any updated copy of the manual -or parts of it -delivered by the manufacturer as an attachment to this manual.

For any further information regarding this manual or the use and maintenance of the machines please contact Keyline S.p.A.

## 1.0.3 REFERENCE MATERIAL

A "Spare parts folder" is attached to this manual.

## 1.0.4 GRAPHIC SYMBOLS



- Indicates operations that can be either dangerous for people and/or disrupt the correct functioning of the machine.
- Indicates prohibited operations.

## 1.1.0 MACHINE DATA PLATE

### Keyline S.p.A.

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### BIANCHI USA

31336 INDUSTRIAL PKWY SUITE 3  
44070 NORTH OLMSTED -HO-  
USA  
Tel.: 001 4407168006  
Fax: 001 216 8030202



Key cutting machine "BIANCHI 106"

voltage: \*

absorbed power: \*

absorbed current: \*

\*See "Technical features" page 17.

 <b>KEYLINE®</b> <small>A BIANCHI1770 GROUP company</small>		Via Camillo Bianchi, 2 31015 Conegliano (TV) - IT Tel. +39.0438.202511 Fax +39.0438.202520 <a href="http://www.keyline.it">www.keyline.it</a> <a href="mailto:info@bianchi1770.it">info@bianchi1770.it</a>	
			
Type Tipo	<input type="text"/>		
Serial No. Matricola	<input type="text"/>		
VOLT	HZ	KW	RPM
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

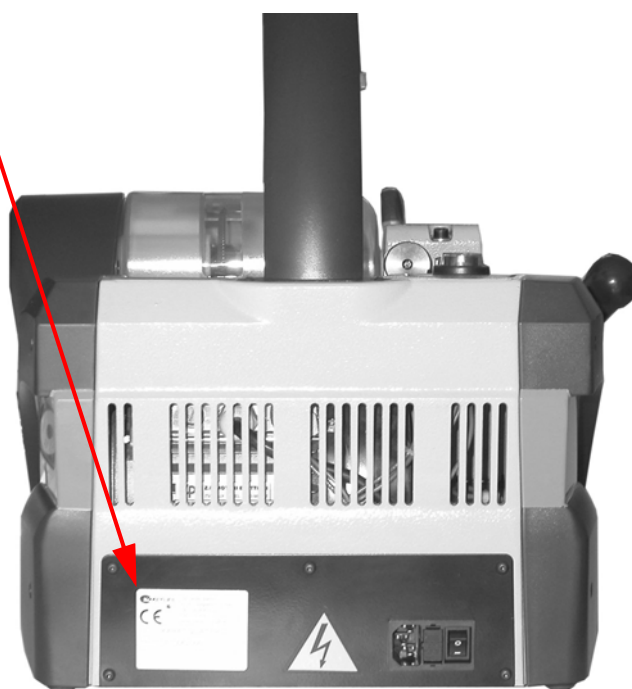


Figure 1: Location of the machine data plate

## **1.2.0 WORKING CONDITIONS**

### **1.2.1 INTENDED USE**

The key cutting machine described in this manual was designed to cut flat cylinder keys for door and car locks and cruciform keys.

### **1.2.2 IMPROPER USE**

The improper use of the machine includes using the machine to obtain a larger or different production than the foreseen one. Should this occur the manufacturer shall take no responsibility for damage to materials or persons and shall consider all warranties on the machine expired.

## **1.3.0 TERMS AND CONDITIONS OF TECHNICAL ASSISTANCE**

### **1.3.1 TECHNICAL SERVICE AND MAINTENANCE**

The manufacturer shall be accountable for servicing during the warranty period and for causes related to the use of the machine.

Ordinary maintenance operations shall be performed by the personnel who use the key cutting machine.

Any other operation (special maintenance, repairs, replacements etc..) shall be carried out by qualified personnel or contractors. Keyline S.p.A. is available for said assistance.

Keyline S.p.A. is at your disposal for:

- clarification and advice;
- delivery of spare parts;
- direct assistance through in-house technical team;
- direct assistance through authorised personnel.

Any servicing by the customer during the warranty period must be previously authorised by Keyline S.p.A.:

- unauthorised operations;
- use of non-original spare-parts.

### **1.3.2 MANUFACTURER'S ADDRESS**

For any further information or technical service related to extraordinary maintenance or repairs, please contact:

#### **Keyline S.p.A.**

Via Camillo Bianchi  
31015 Conegliano (TV) ITALY  
Tel.: +39.0438.202511  
Fax: +39.0438.202520  
Sito Internet: [www.keyline.it](http://www.keyline.it)  
E-mail: [info@keyline.it](mailto:info@keyline.it)

#### **BIANCHI USA**

31336 INDUSTRIAL PKWY SUITE 3  
44070 NORTH OLMSTED -HO- USA  
Tel.: 001 4407168006  
Fax: 001 216 8030202

To facilitate communication please state:

- the name of the customer;
- the machine identification data contained in the machine data plate.

## 2.1.0 SAFETY LEGISLATION

The key cutting machine and its safety devices comply with **Council Directive 2006/42/EEC** known as "Machine Directive".

This manual lists all safety instructions that the operator must follow during the installation and functioning of the machine.

Failing to respect the instructions may compromise the safety conditions envisaged during design and testing phases.

When employed for their intended use all machines marked CE comply with EU 'machine' directive 2006/42/CEE and directives 2006/95/CEE, 2004/108/CEE.

### Warning:



### Important!

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**Users must be informed about the instructions contained in the following pages.**

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**Users must carefully follow the instructions contained in this manual.**

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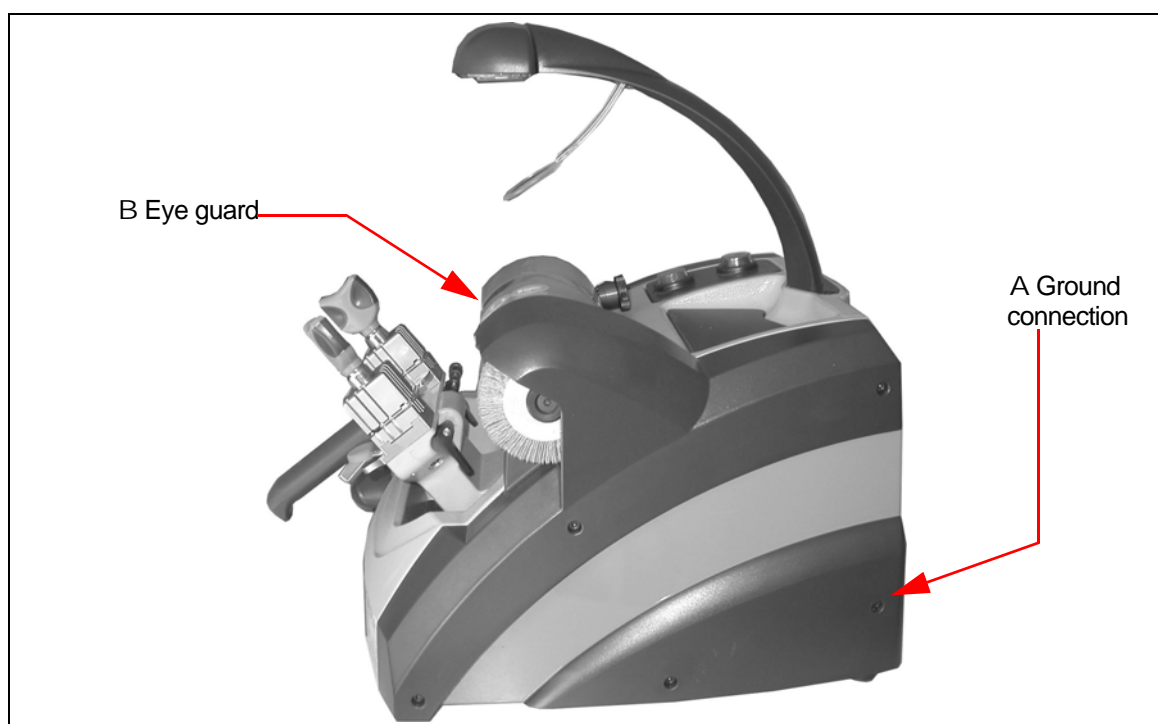
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## 2.2.0 SAFETY DEVICES

The key cutting machine is equipped with safety devices and machine guards that delimit the field of action of the operators to guarantee their safety.

### 2.2.1 PROTECTION DEVICES

- Ground Connection (A).
- Guard to protect the operator from projected metal chips or scrap (B).



## 2.2.2 PERSONAL PROTECTIVE EQUIPMENT

When operating and maintaining the key cutting machine users must wear the following personal protective equipment:

- **Protective clothing:**  
Maintainers and key cutting machine operators must wear protective clothing that complies with the basic safety requirements currently in force. In case of slippery floors users must wear safety shoes with anti-slip soles
- **Safety glasses:**  
During key cutting operations operators must wear eye protection (glasses or goggles).
- **Gloves:**  
If metal milling cutters and brushes are present, operators must wear protective gloves to avoid injuries.

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## 2.2.3 SAFETY SIGNS

The key cutting machine bears the following safety signs.



- **Wear safety glasses.**



- **Wear safety gloves.**

**KEYLINE**

## 2.2.4 GENERAL SAFETY REQUIREMENTS

**Warning:**



**Important!**

**Make sure that the grounding system is well connected.**

**During key cutting operations always keep your hands on the handles that control carriage movements.**

**Always de-energise the machine (turn off the main switch) before servicing mobile parts that are electrically operated.**

**Do not pour water or other liquids onto the engine or electrical connections.**



### 2.3.0 RESIDUAL RISKS

The machine has been designed with the utmost care to make it safe throughout production, transport, adjustment and maintenance operations. Nevertheless not all risks for either operators or the environment could be eliminated, be it for technological reasons (material reliability) or management-related issues (overcomplicated operations).

Therefore, when operating the machine the following residual risks - as well as those connected with its use - must be taken into due consideration:



- **Risks related to the place of installation**

The place where the machine is installed might present hazards that could disrupt the correct functioning of the machine (see paragraph 5.2.0 on page 21).



- **Electrical hazard (A)**

Since the machine is equipped with electrical devices, in case of faults there might be a risk of electrocution. The power line must be fitted with the appropriate control and protection devices (circuit breaker, thermal overload switch and differential switch).



- **Mechanical hazard (B)**

The machine is fitted with milling cutters and tracer points used in key cutting operations. Operators must watch out to avoid cutting their hands when they are cutting keys or changing tools. Operators shall also prevent clothes, necklaces/bracelets/rings and/or long hair from becoming trapped or entangled in the moving parts of the machine. The use of caps to contain hair is recommended.

## 3.1.0 MAIN FEATURES

Professional key cutting machines BIANCHI 106 feature sided clamps, for a safe and reliable clamping of flat keys for cylinder locks, car keys and cruciform keys.

Key cutting machines BIANCHI 106 are fitted with a gauging system mounted on both axes that is specially useful in case of worn sample keys.

The smooth and accurate carriage movements are guaranteed by slideways on rolling bearings.

The cast iron machine structure minimizes vibrations reducing the noise and increasing the life of the machine tool.

Key cutting machines BIANCHI 106 are used to produce the following types of key:

- Door cylinder keys
- Car keys

**KEYS FOR DOOR CYLINDER LOCKS**

Figure 2: Keys for door cylinder locks

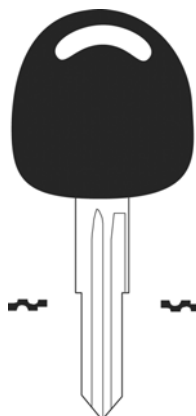
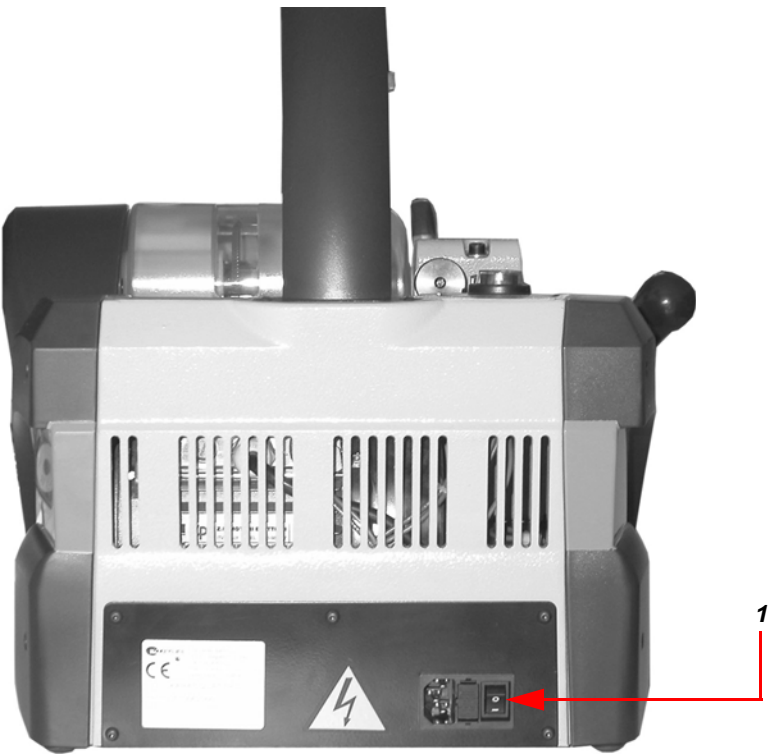
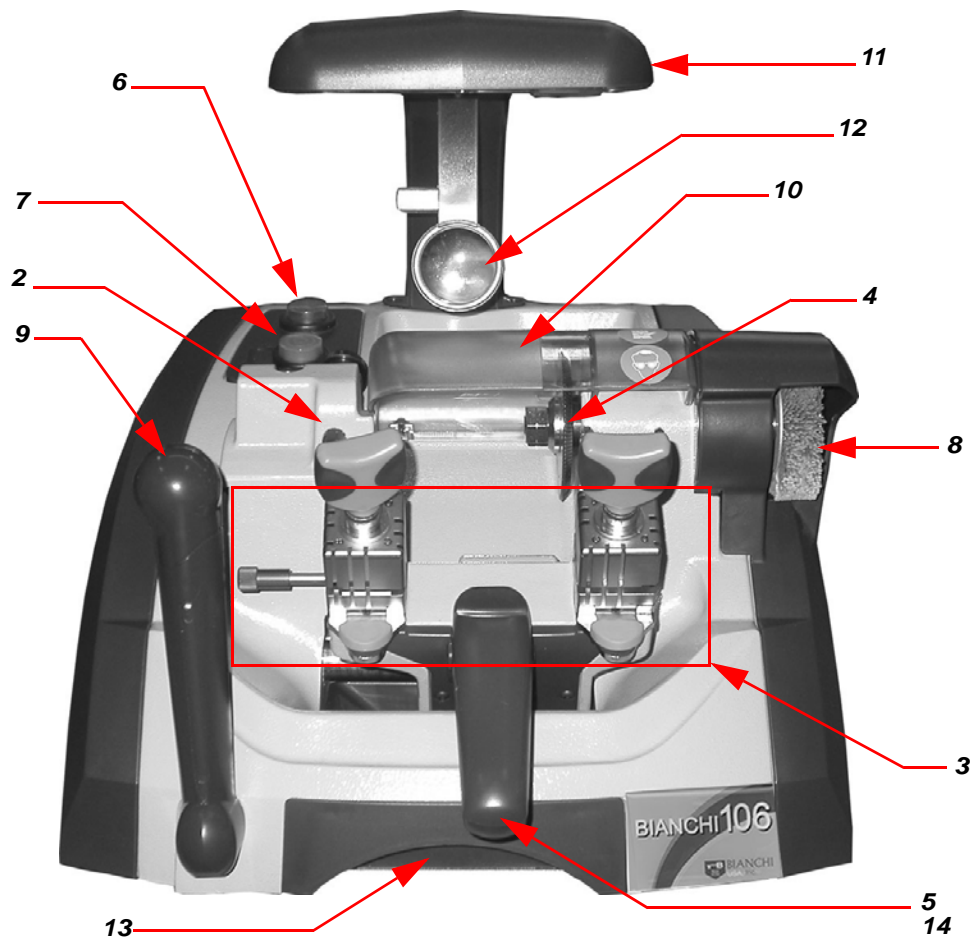
**DOUBLE BIT CAR KEYS**

Figure 3: Double bit car keys

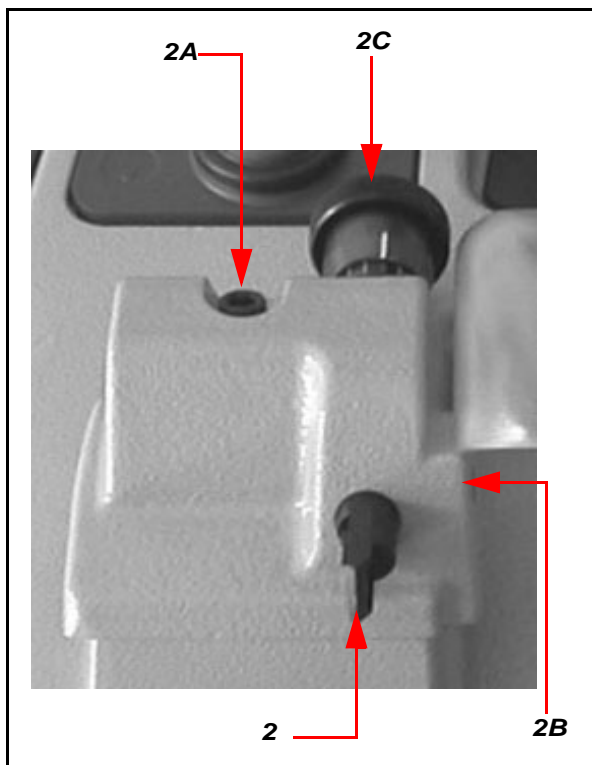
3.2.0 PARTS- MACHINE MODEL BIANCHI 106



PARTS					
1	Main switch	5	Carriage handle	9	Lever to control carriage horizontal movement
2	Tracer point unit	6	'Start machine' push button	10	Protective eye guard
3	Clamps unit	7	'Start brush' push button	11	Lamp
4	Milling cutter	8	Brush	12	Magnifying glass

# 1 MAIN SWITCH

When the switch is in the **ON** position, the machine is in the stand-by mode ready for use.



## 2 TRACER POINT

The tracer point detects the bitting of the 'key sample', and it follows the profile of the original key to be copied

### 2A STOP NUT FOR TRACER TRAVERSE

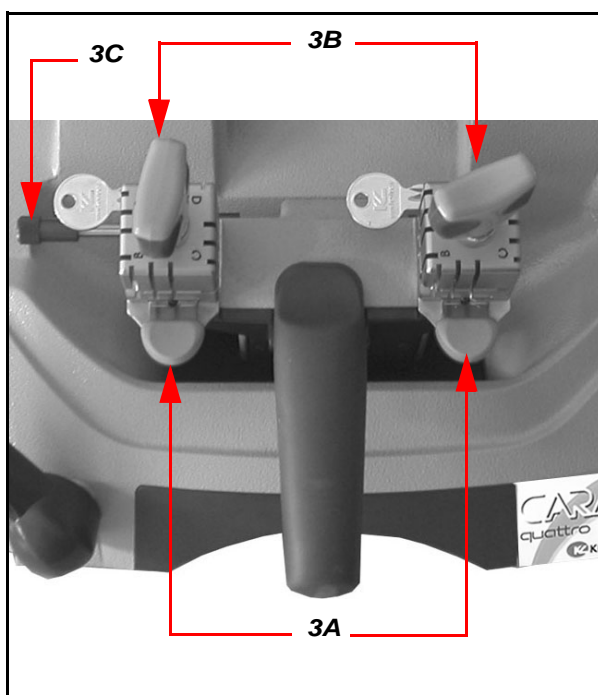
The tracer traverse can be adjusted by releasing this locking device

### 2B STOP NUT FOR TRACER LONGITUDINAL MOVEMENT

The tracer length-wise movement can be adjusted by releasing this locking device

### 2C KNOB TO ADJUST TRACER LONGITUDINAL MOVEMENT

This knob allows adjusting the length-wise movement of the tracer.



## 3 CLAMPS

The machine is fitted with 2 four sided clamp sets. They will be arranged according to the key to be cut.

### 3A CLAMP BASE LEVER

It is a lever that permits to lift the clamp base.

### 3B LEVERS TO CLAMP JAWS

These levers clamp jaws to lock processed keys in place

### 3C GAUGING DEVICE

Rod used to set key measurements for an accurate key duplication

- 4 MILLING CUTTER  
The milling cutter moves parallel to the tracer and performs the cutting of the "blank" key (duplicate key).
- 5 CARRIAGE HANDLE  
The carriage handle has a twofold function: it controls the vertical movement of the carriage and it starts the machine automatically.
- 6 'START MACHINE' PUSH BUTTON  
Push this button to start the motor
- 7 'START BRUSH' PUSH BUTTON  
Push this button to start the brush
- 8 BRUSH
- 9 LEVER TO CONTROL CARRIAGE HORIZONTAL MOVEMENT  
This lever controls the horizontal movement of the carriage
- 10 PROTECTIVE SCREEN  
The key cutting machine is equipped with a protective screen that prevents operators from being hit by projected metal chips during machining.
- 11 LAMP
- 12 MAGNIFYING GLASS
- 13 TOOL HOLDER
- 14 CARRIAGE RELEASE LEVER  
An upward movement of the lever causes the release of the carriage

### 3.3.0 MACHINE ACCESSORIES

The key cutting machine is supplied with a kit of accessories (shown in table 1), used for adjusting, running and maintaining the machine:



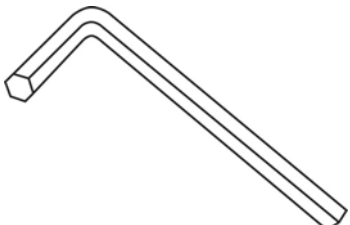
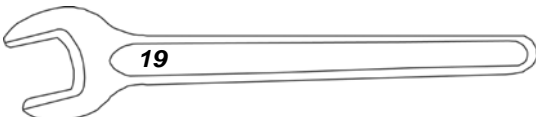


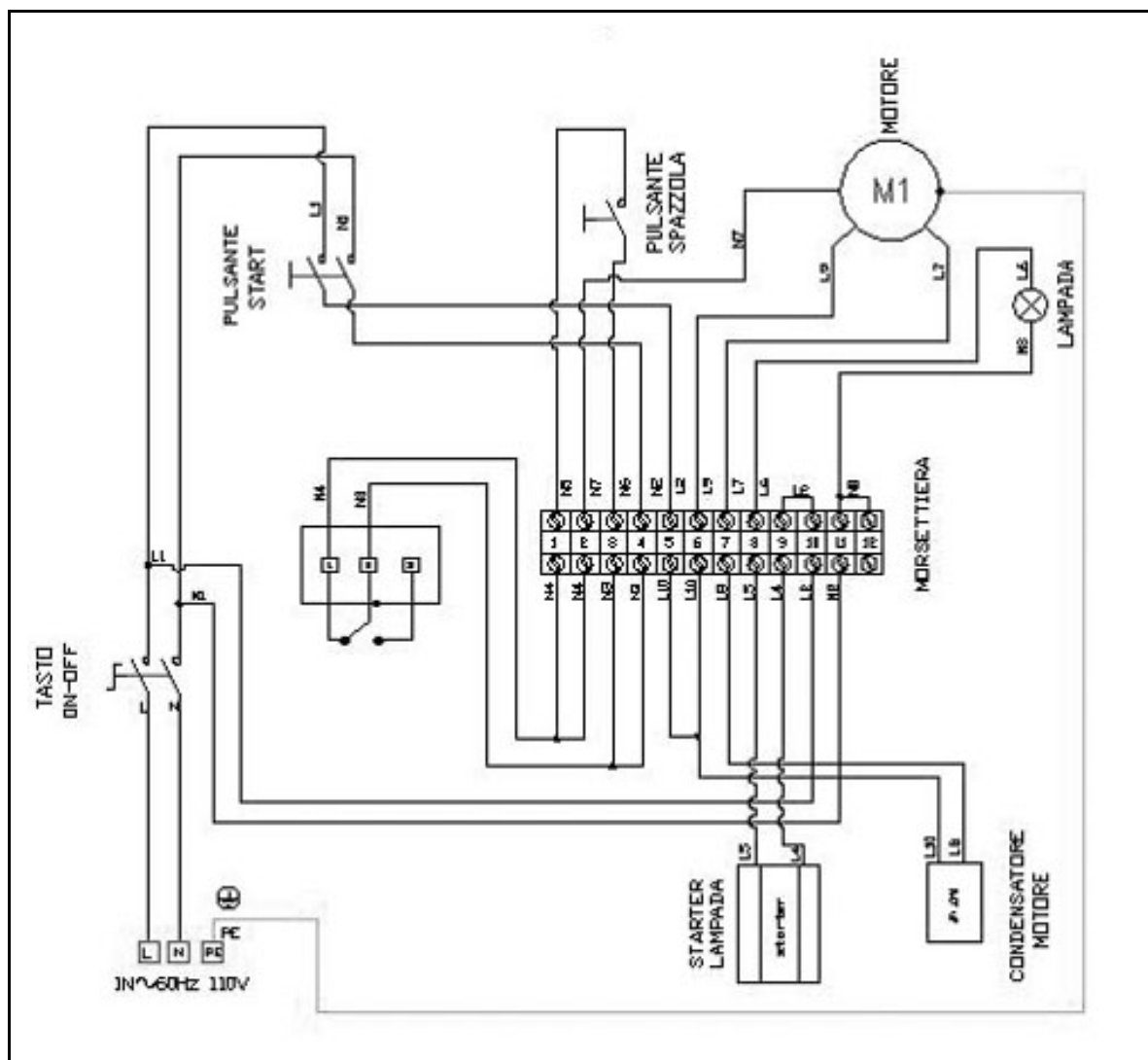
A		ALL-PURPOSE PLATES 2 pcs. <b>code</b> B404340LA
B		PIN-SHAPED SHIMS 2 pcs. D= 1,2 mm <b>code</b> VA60005/2 2 pcs. D= 1,7 mm <b>code</b> VA60005/1
C		HEXAGON SPANNERS 1 pc. D= 2 mm <b>code</b> VT58287 1 pc. D= 2,5 mm <b>code</b> VT58288 1 pc. D= 3 mm <b>code</b> VT58289 1 pc. D= 4 mm <b>code</b> VT58290 1 pc. D= 5 mm <b>code</b> VT58291 1 pc. D= 6 mm <b>code</b> VT58313
D		FORK SPANNER 1 pc. D= 19 <b>code</b> VT58294
E		BRUSH 1 pc. <b>code</b> VA53039
F		MILLING CUTTER LOCKING ROD 1MM. 1 pc. <b>code</b> B401575LA

Table 1: Kit of accessories

## 3.4.0 ELECTRIC CIRCUIT



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**KEYLINE**



**3.5.0 TECHNICAL FEATURES**

MACHINE DIMENSIONS		BIANCHI 106	
Width		320 mm	
Height		270 mm	
Depth (Length)		425 mm	
Weight		26 Kg	
TECHNOLOGY FEATURES			
Power voltage		230 V - 50 Hz / 110 V - 60 Hz	
Absorption		2,0 Amp.	
Motor		Single-phase 230 V - 50 Hz / 110 V - 60 Hz	
- Motor capacity		0,18 kW	
Type of milling cutter		80 x 5 x 16	
Type of tracer		Adjustment on two axes	
Type of clamps		4 sided	
Maximum biting length		53 mm	
Lighting		Incandescent lamp	
Working temperature		0°C ÷+ 40°C	

Table 2: Technical features

**3.5.1 NOISE**

Acoustic pressure level	dB(A)	78,5
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Table 3: Noise

## 4.1.0 PACKING

Prior to transport the machine and its component parts are packed in a carton and fixed in it with polystyrene foam covers that allow a safe and damage-free handling of the goods.

The dimensions of the carton are shown below.

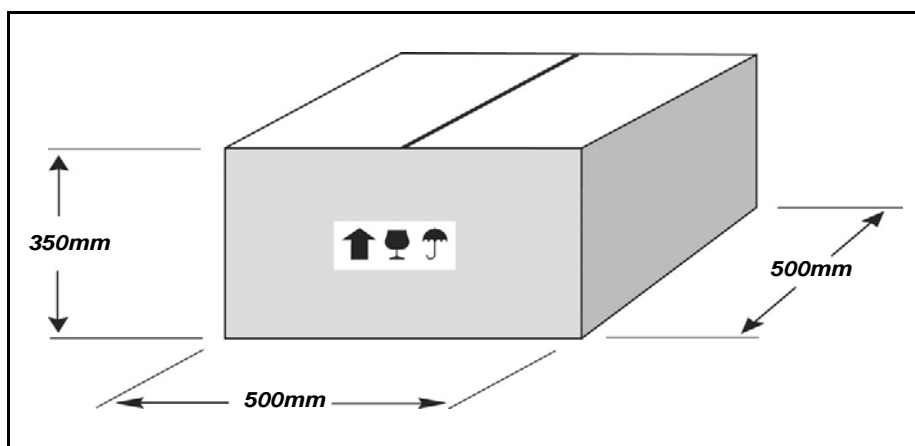


Figure 4: Package size

### Warning:



### IMPORTANT!

**We recommend you to keep the packaging during the warranty period.**

## 4.2.0 TRANSPORT

As a rule the key cutting machine is despatched with component parts already assembled.

The markings on the packing materials indicate how to handle the machine during transport.

### 4.2.1 UNLOADING AND HANDLING THE MACHINE

The machine can be unloaded manually; no hoisting equipment is required.

### Warning:



**Be careful not to throw the machine off balance, let it tip over and fall. Even a small damage would impair its correct functioning.**

## 4.2.2 ITEM CHECKLIST AND DETECTION OF DAMAGE

packing list are in good condition. If any items are missing, the packing has been tampered with or the goods are damaged write a statement in the delivery note, sign it and have the carrier sign it too. Notify Keyline S.p.A. immediately and wait for the relevant instructions.

Please note that if you fail to notify the damage immediately you will lose your rights to damage compensation.

Do not remove protective covers before the installation - unless they are damaged.

Packages that were opened to examine the contents must be handled with care to avoid damaging the goods; re-pack the parts and store them in a safe place until the installation.

For more detailed information on how to handle these parts refer to the chapter "Temporary storing".

## 4.2.3 OPENING THE PACKAGE

Remove the machine from the packing materials following the instructions below:

1. Cut the straps;
2. Remove staples;
3. Remove the machine from the carton.

## 4.3.0 PLACING THE MACHINE

After removing the packing materials, take hold of the machine base and move the **BIANCHI 106** key cutting machine onto the workstation.

## 4.3.1 TEMPORARY STORING

If the installation of the machine does not occur immediately, store the machine in a dry and properly ventilated place.

- Apply an appropriate coating to prevent corrosion of surfaces that may suffer oxidation and corrosion.
- Check regularly for corrosion.
- Rubber parts must be protected against too low temperatures. Never store them outdoors, not even for short periods. Keep them well ventilated in case of hot temperatures.

### Warning:




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**If the machine is stored or remains unused for long periods or if it is started a long time after delivery, gaskets or retaining rings may undergo hardening thus causing leaks or seizures.**

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**If the period of inactivity is longer than 6 months, inspect the machine carefully and replace any gaskets or parts that may have decayed during storing or downtime.**

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To avoid that inaccurate operations or re-assembling may damage the equipment at the time of start-up, the utmost care must be used in performing such inspection, that shall be carried out by qualified and skilled personnel.

Warning:



**IMPORTANT!**  
Make sure that:

there is no dripping from iron and metal structures;

the transit of equipment, goods or people near the machine does not damage it.

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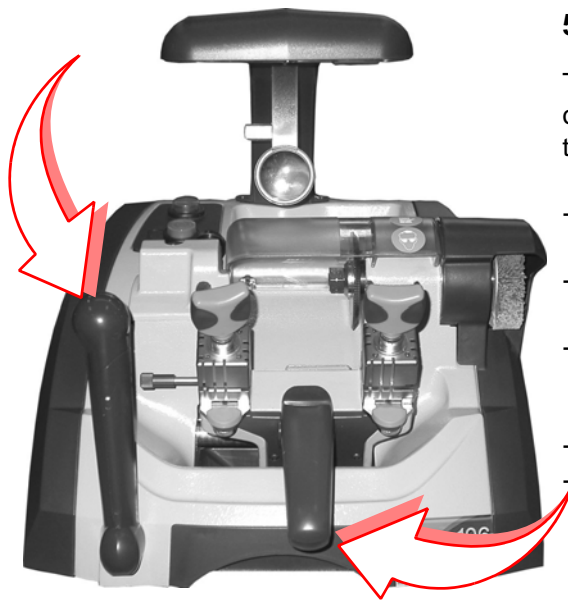
**KEYLINE**

## 5.1.0 GENERAL INSTRUCTIONS

### 5.1.1 CHARACTERISTICS OF THE PLACE OF INSTALLATION

The key cutting machine must be placed on a smooth level bench about 90 - 110 cm high, suitable for bearing the weight of the machine and keep it horizontal, thus avoiding vibrations and stress.

Allow a 30-cm clearance around and above the key cutting machine for correct functioning and maintenance.



### 5.1.2 WORK STATION

The key cutting machine will be operated only by one operator who will stand in front of the machine and do the following:

- Hold his/her hands on the control levers during key cutting operations;
- Keep the work station tidy and free from objects that may hamper regular machine operations;
- Make sure that environmental conditions allow to work safely (appropriate lighting, temperature and humidity );
- Remove scrap and metal chips from the desk;
- Keep unauthorised personnel out of the area.

## 5.2.0 ENVIRONMENTAL CONDITIONS

### 5.2.1 TEMPERATURE AND HUMIDITY

The machine should be used in rooms with a temperature range of 0 - 40 °C (273 K - 313 K) and a relative humidity lower than 50 - 60%.

### 5.2.2 WORKING ENVIRONMENT

The machine must be used in a place protected from bad weather (rain, hail, snow etc.).

#### Warning:



**If the machine is used in places exposed to corrosion, maintenance shall be scheduled in such a way as to prevent extreme wear of the components.**



**Do not use the machine in explosive or partially explosive atmosphere or in the presence of inflammable liquids of gases.**

### 5.2.3 LIGHTING

In the place of installation lighting must be appropriate, in order to allow the correct use and maintenance of the machine. The user shall be responsible for complying with the legislation in force regarding lighting.

### 5.2.4 VIBRATIONS

The normal use of the machine - according to the instructions of this manual does not cause vibrations that can be dangerous for people.

## 5.3.0 CONNECTIONS

### 5.3.1 GROUNDING

Key cutting machines BIANCHI 106 have been designed in compliance with the safety legislation in force and feature appropriate safety devices to prevent work accidents.

In particular the machine was built with materials that:

- are self-extinguishing;
- protect against electrocution;

The machine must be grounded through the centralised circuit of the place of installation..

**Warning:**



**Make sure that the main voltage is compatible with the machine voltage.**

**Make sure that the motive power outlets are grounded.**

If no grounded motive power outlets are available in the place of installation you can use the connecting terminal in the back of the key cutting machine and connect it to a suitable grounded system by means of a cable.

**Warning:**



**Do not touch the machine when your hands and/or feet are wet or humid;**

**Avoid any contact with grounded plates.**

## 6.1.0 INSTRUCTIONS FOR THE OPERATOR

This section describes the working procedures for the safe use of the key cutting machine.

### Warning:



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**Wear personal protective equipment (safety glasses and gloves) and follow safety instructions carefully.**

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**During key cutting ALWAYS keep your hands on the levers that control the carriage movement, as shown in figure on page 21.**

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## 6.1.1 GENERAL INSTRUCTIONS FOR USE

Here is a list of instructions that operators must follow in order to guarantee steadily efficient and safe machine operations.

- Avoid using tools and cutters for improper uses as this can damage them;
- Keep the power cable away from heat, humidity, oil, water and sharp cutting items;
- Keep the machine cutters sharp and clean for better and safer performance;
- Follow the instructions regarding lubrication and replacement of machine parts;
- Check wires, belts, extension cables and patch cords regularly; if they are damaged or worn let the authorised servicing personnel repair or replace them;
- Keep handles dry and clean;
- Do not expose the machine to bad weather;
- Disconnect the machine power cable from the mains before any maintenance or repair operation or whenever the machine remains unused for a long time;
- Use only original spare parts.

## 6.1.2 PRELIMINARY CHECKS AND START-UP

Before starting the machine the operator must:

- Check that the power cable is properly connected to the mains;
- Check that the machine is levelled;
- Carry out a visual inspection of the machine to make sure that no part has been removed or modified;
- Check that the machine and the surrounding area are tidy and no clothes, tools, spare parts and other objects may hamper machine operations.

## 6.2.0 ADJUSTMENT OF THE KEY CUTTING MACHINE

### 6.2.1 ADJUSTING THE VICE OF KEY CUTTING MACHINE "BIANCHI 106"

Professional key duplicator **BIANCHI 106** is equipped with 4 sided reversible jaws that allow cutting different types of keys without using adapters.

Jaws have asymmetric sides **A-C** and **B-D** (see figure 5).

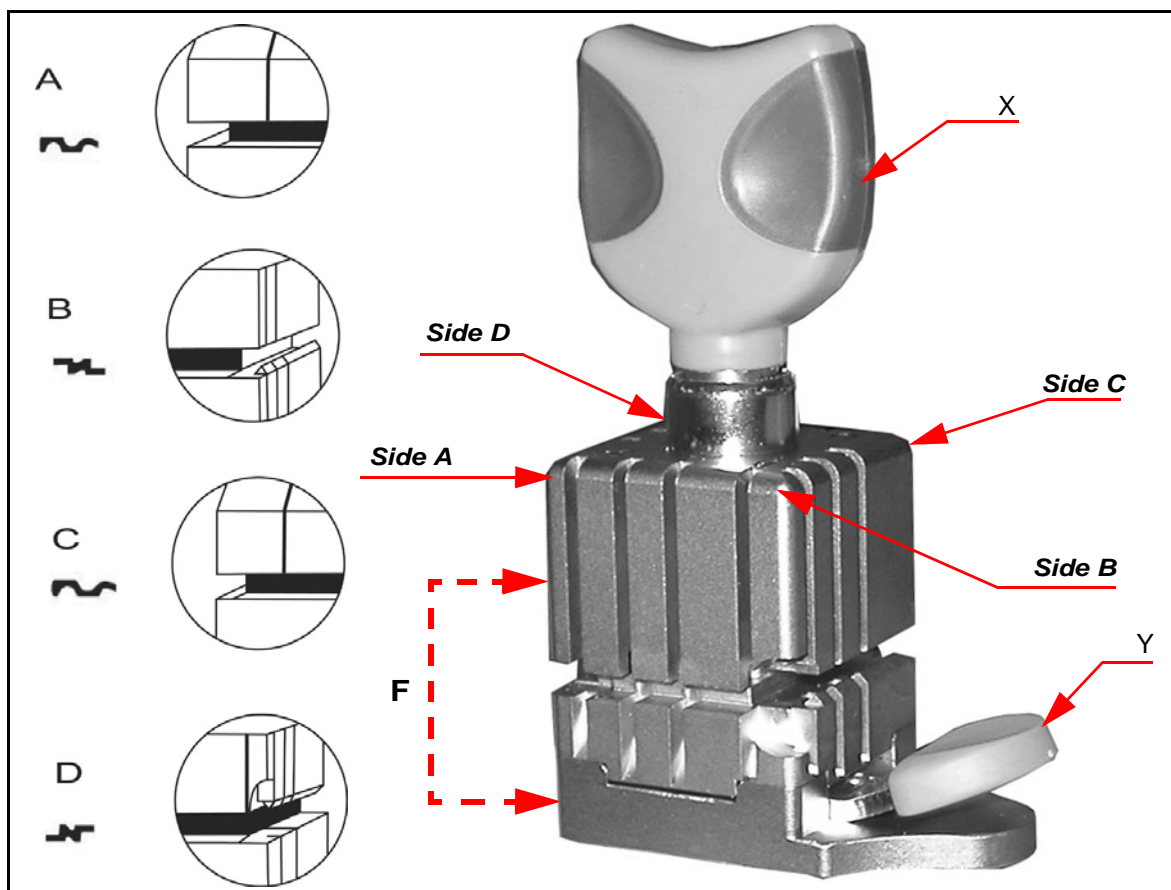


Figure 5: How to adjust the "BIANCHI 106" s vice

- Use side A with a flat jaw for cruciform keys (except Y and T - shaped keys).
- Use side B with a wedge jaw for double bit keys.
- Use side C with a flat jaw for flat keys.
- Use side D with a wedge jaw (upper part) for double bit keys.

Follow the steps below to position the jaw for cutting:

1. Loosen the jaw by turning the lever counter clockwise (X);
2. Press the lever (Y) on the base of the clamp to lift it;
3. Get hold of block (F), lift it slightly and rotate it 180° to the required position.



## 6.2.2 ADJUSTING THE GAUGE WINGS

Warning:

**IMPORTANT**



**Press the main switch to turn OFF the power and disconnect the power cable from the mains before carrying out the operation below.**

### PROCEDURE

1. Arrange the all purpose plate in the jaws adjusting it in the **A** position (see figure 6), so that the lower back stop is against the left side of the jaws (see figure 6);
2. Rotate the gauging rod (16) until the wings of gauge (L) fit into the upper stops (gaps) of the all purpose plate (see figure 6);

**Should this step fail, proceed as follows:**

3. Loosen nut (G) that holds the wings and let them slide along the rod until the conditions described under point "2" are met (see figure 6).

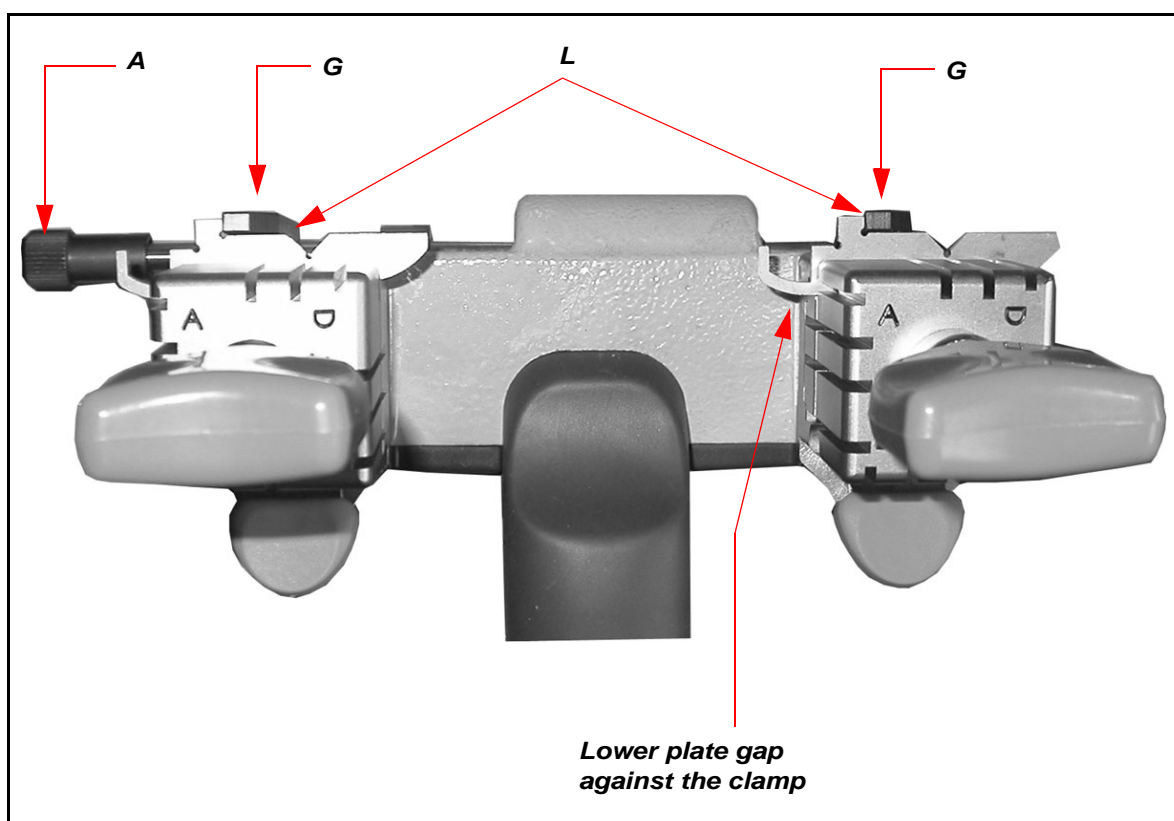


Figure 6: Adjusting the gauge wings

### 6.2.3 CHECKING AND ADJUSTING THE CUTTING DEPT

The cutting depth must be adjusted before setting the distance between the milling cutter and the tracer point as described in paragraph 6.2.4 on page 27.

Warning:



#### IMPORTANT

**Press the main switch to turn OFF the power and disconnect the power cable from the mains before carrying out the operation below.**

#### PROCEDURE

1. Place the all purpose plates (J) between the jaws previously set in the A position (see figure 7);
2. Unlock the carriage by lifting lever and move it upwards until the all purpose plate reaches the tracer point;
3. Move the milling cutter manually to make sure that it is against the edge of the all purpose plate but that the latter does not block it;

**Should step 3 fail, proceed as follows:**

4. Loosen the screw;
5. Adjust the position of the tracer manually by means of the lateral nut.
6. Now the cutting depth is correct;
7. Tighten nut and make sure the tracer point is locked.



**Repeat this procedure every time you need to change the milling unit.**

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**KEYLINE**

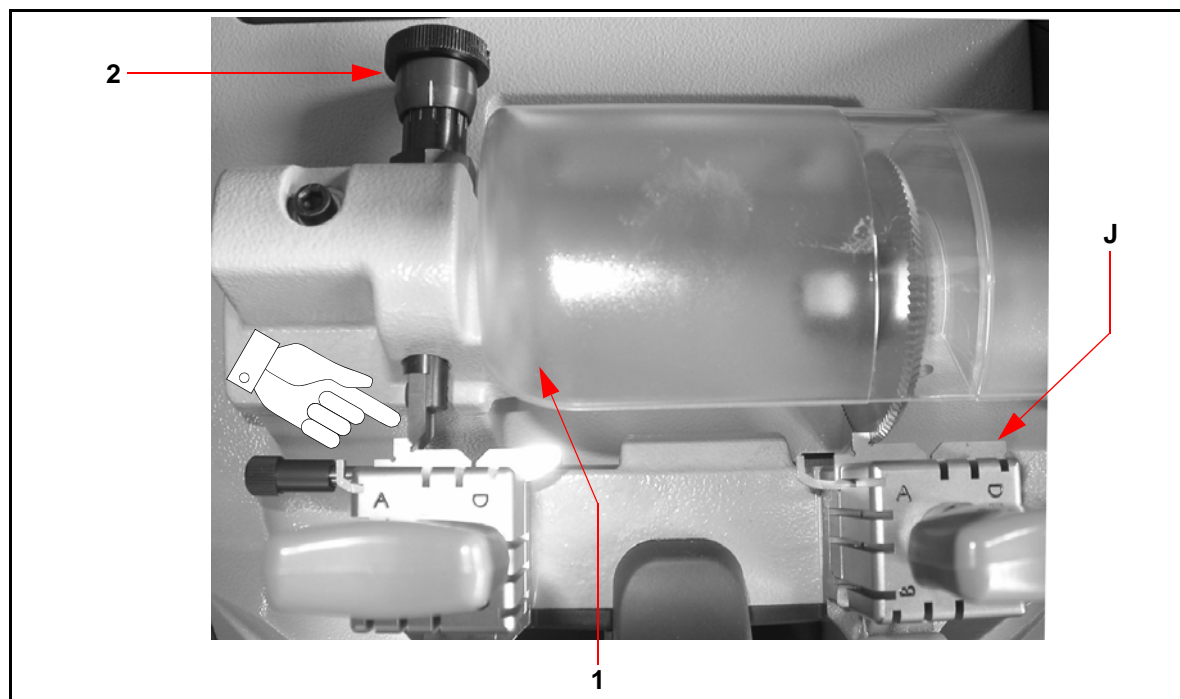


Figure 7: Control and adjustment of the cutting depth

## 6.2.4 CHECKING AND ADJUSTING THE MILLING CUTTER - TRACER POINT SPACING

Always carry out this procedure after checking or adjusting the cutting depth as described in paragraph 6.2.3 on page 26.

Warning:

**IMPORTANT**



**Press the main switch to turn OFF the power and disconnect the power cable from the mains before carrying out the operation below.**

### PROCEDURE

1. Arrange the all purpose plates in the jaws adjusting them in the **A** position (see figure 7), so that the plate's lower backstop is against the left side of the jaws (see figure 6);
2. Move the carriage towards the machine and shift it left or right until the milling cutter and the tracer point fits into the V- shaped groove of the all purpose plate (see figure 8);
3. Move the milling cutter manually to make sure that it is against the edge of the all purpose plate but that the latter does not block it;

**Should step 3 fail, proceed as follows:**

4. Loosen nut (1);
5. Adjust the position of the tracer manually until the condition described at point "3" is reached;
6. This is the correct milling cutter- tracer point distance;
7. Tighten nut (1) and make sure the tracer point is locked.

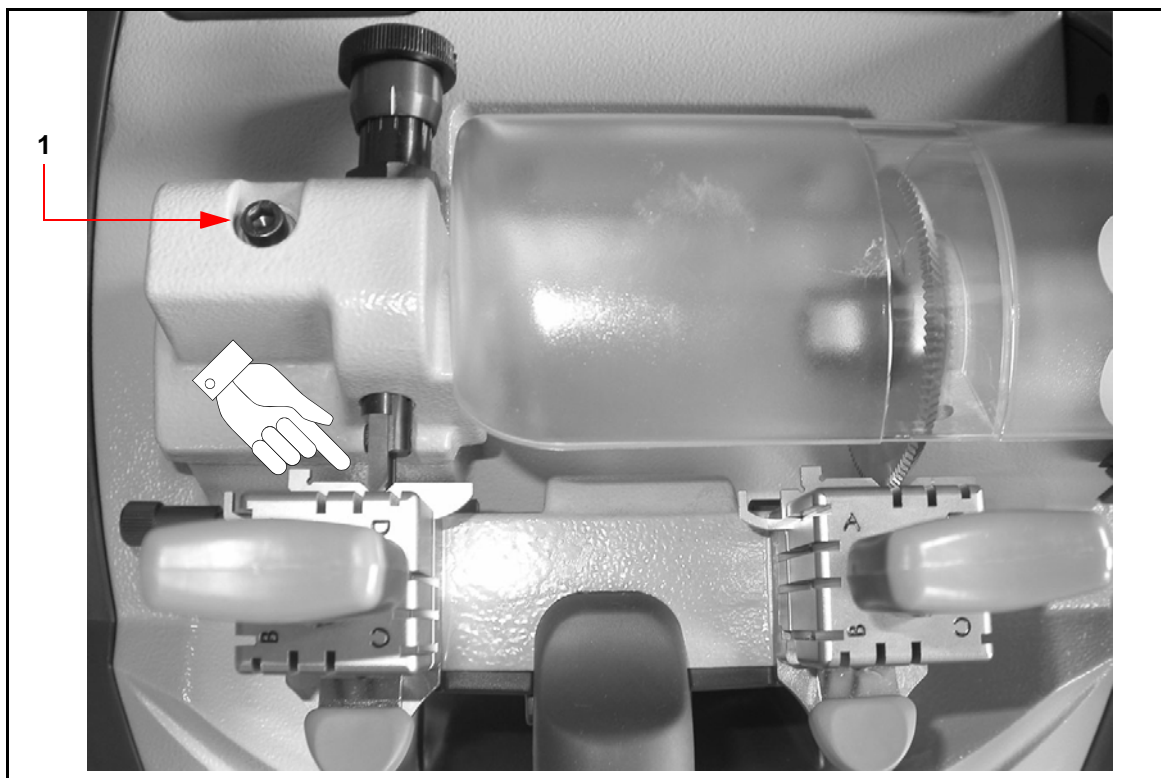


Figure 8: Checking and adjusting the milling cutter - tracer point gap

### 6.3.0 KEY CUTTING

#### 6.3.1 SINGLE BIT KEYS WITH SHOULDER

##### PROCEDURE

1. Arrange the jaws with side "A", face up as described in paragraph 6.2.1 on page 24;
2. Put the 'key sample' in the left jaw and secure it by means of lever (1). The key sample must be arranged with the shoulders slightly detached from the left edge of the jaw and the back in contact with the base (see figure 9);
3. Insert the 'blank key' into the right jaw and align it with the key sample by lifting gauge (2) and pushing the wings into contact with the shoulders of both keys;
4. Secure the blank key in the right jaw by means of lever;
5. Turn on the power using switch;
6. Cautiously move the carriage downwards holding its handle (3) and release it with lever (4). Gauge and wings will go back to the initial position automatically;
7. Press the "Start Machine" button to start the motor and draw the carriage near the milling cutter (8);
8. To cut the key start from the shoulder and continue toward the tip using lever. Then move the tracer point against the shoulder of the key sample and shift the carriage from right to left by means of the transfer lever. The tracer point must always remain inside the key bit.



**Do not force the carriage against the cutter as adjustment of the appropriate pressure occurs automatically.**

9. When ready move the carriage downwards: it will be secured in the stand-by position automatically;
10. Use the deburring brush to remove any burrs from the key. The brush is operated by the "Start Brush" push button.

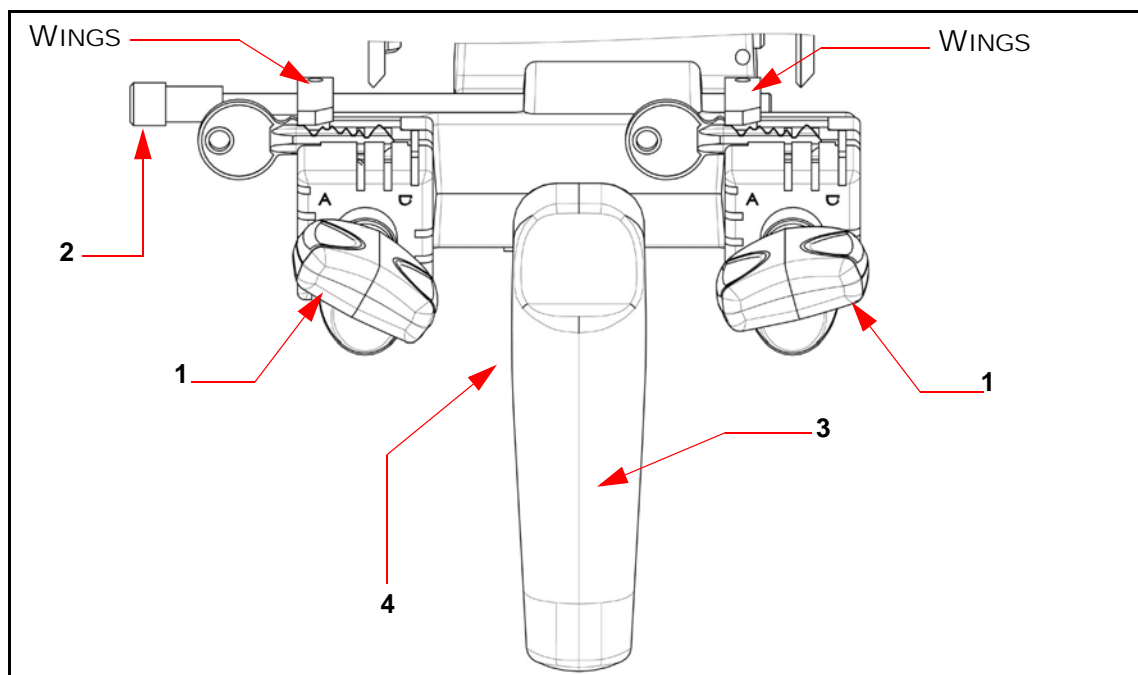


Figure 9: Duplicating single bit keys with shoulder

### 6.3.2 SINGLE BIT KEYS WITHOUT SHOULDER

#### REQUIRED TOOLS

The duplication of shoulderless keys is made with the use of positioning devices.

#### PROCEDURE

1. Arrange the jaws with side "A" face up as described in paragraph 6.2.1 on page 24;
2. Insert the positioning devices with the notch up into one of the jaw's grooves according to the length of the key you wish to duplicate (see figure 10);
3. Insert the key sample into the left jaw and lock it by means of lever (1). The key sample must be placed with the tip against the positioning device;
4. Insert the key blank into the right jaw and place it with its tip against the corresponding positioning device;
5. Secure the key blank in the right jaw;
6. Remove the positioning devices rotating the notch under the keys so that the position of the keys remains unchanged;
7. Now go through steps 5-6-7-8-9-10 described in paragraph 6.3.1 on page 28.

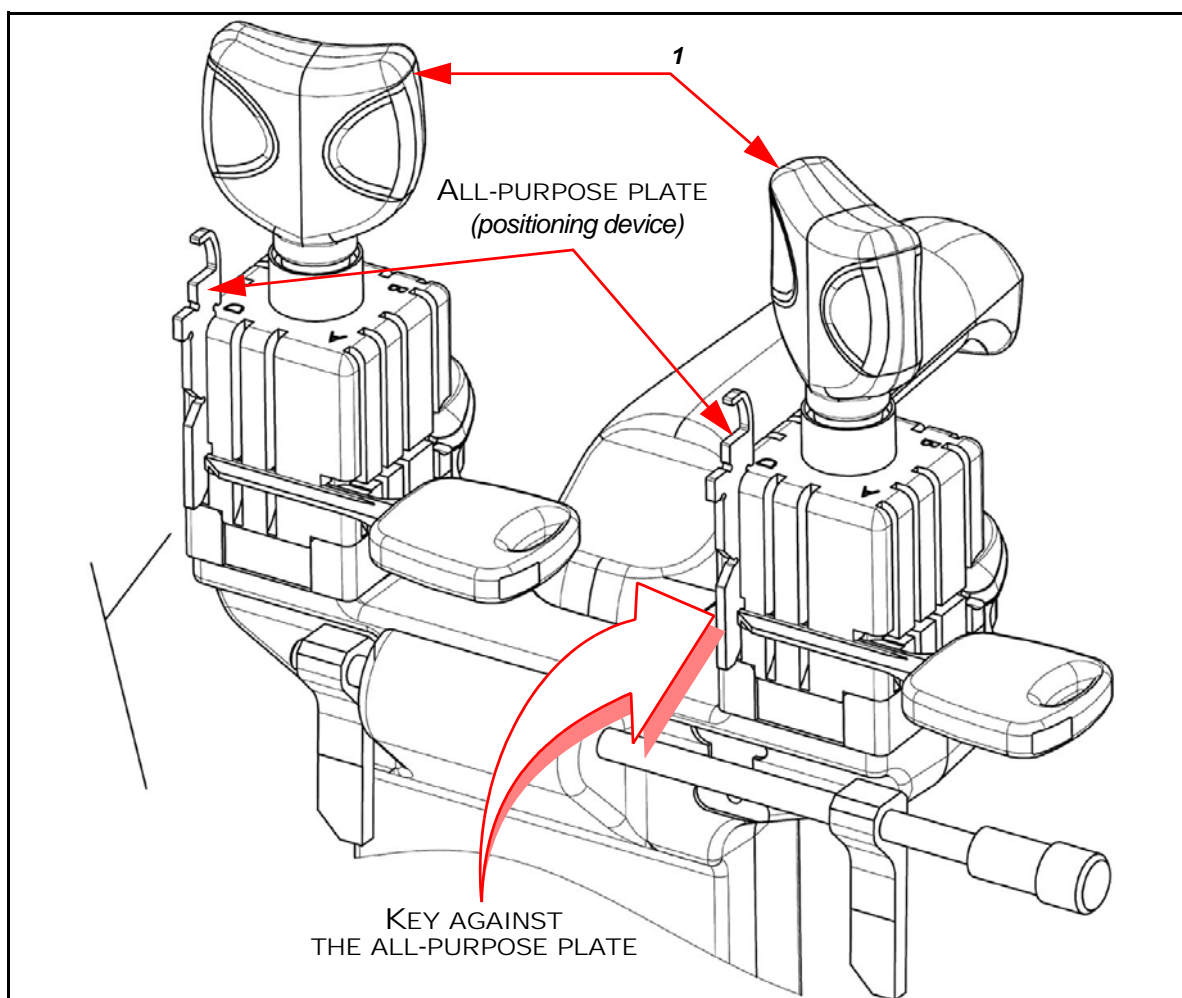


Figure 10: Duplication of single bit keys without shoulder

### 6.3.3 DOUBLE BIT CAR KEYS

#### PROCEDURE

1. Place the clamp sets with the "B" or "D" (according to the profile), side face up as described in paragraph 6.2.1 on page 24;
2. Insert the key sample into the left jaw and lock it by means of lever. The position of the key sample must be such that the jaw wedge can get into one of the two key mills (as shown in figure 11);
3. Insert the key blank in the right clamp set as described above and lock it by means of knob;
4. Now go through steps 5-6-7-8 described in paragraph 6.3.1 on page 28;
5. Loosen the clamps and shift the key so that the jaws' wedge can get into the second mill;
6. Repeat cutting operations;
7. Use the deburring brush to remove any burrs from the key. The brush is operated by the "Start Brush" push button.

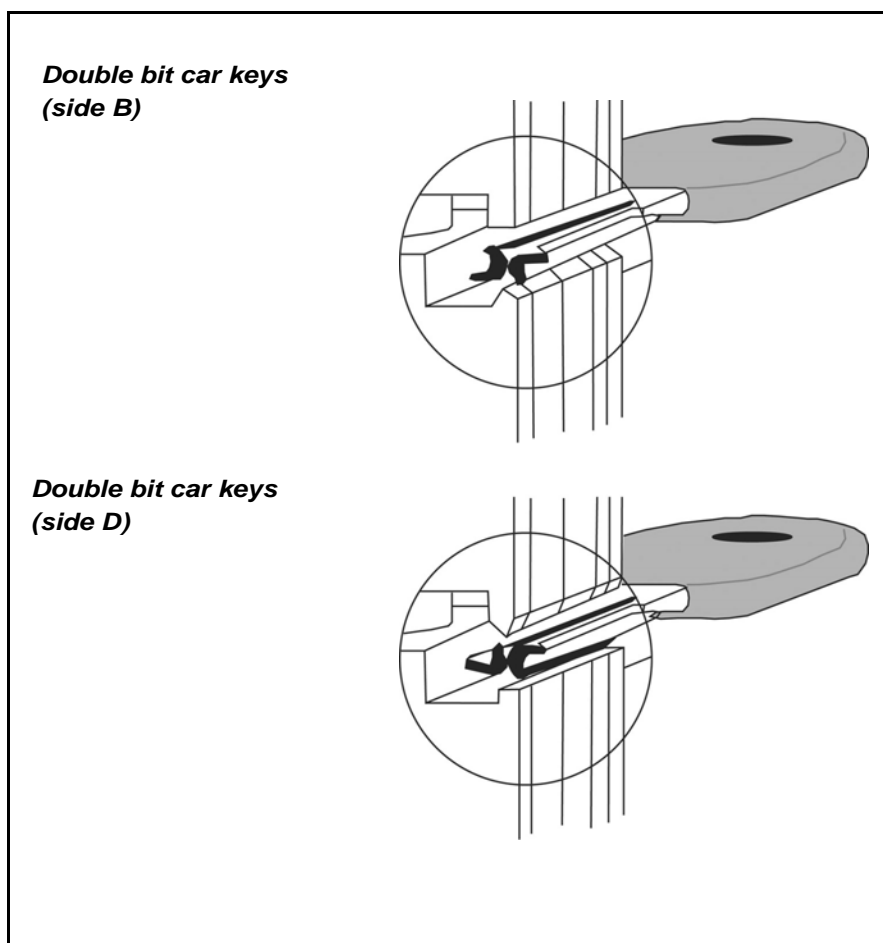


Figure 11: Double bit car keys



### 6.3.4 USING SHIMS

When keys are very thin and/or the stem is very narrow it is necessary to use shims (figure 12) to clamp the key correctly.

- The shim used to 'adapt' the key blank to the jaw must have the same diameter as the shim used for the key sample so that the position of the two keys in their respective clamps is the same.

**Warning:**



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**Never exchange the clamps.**

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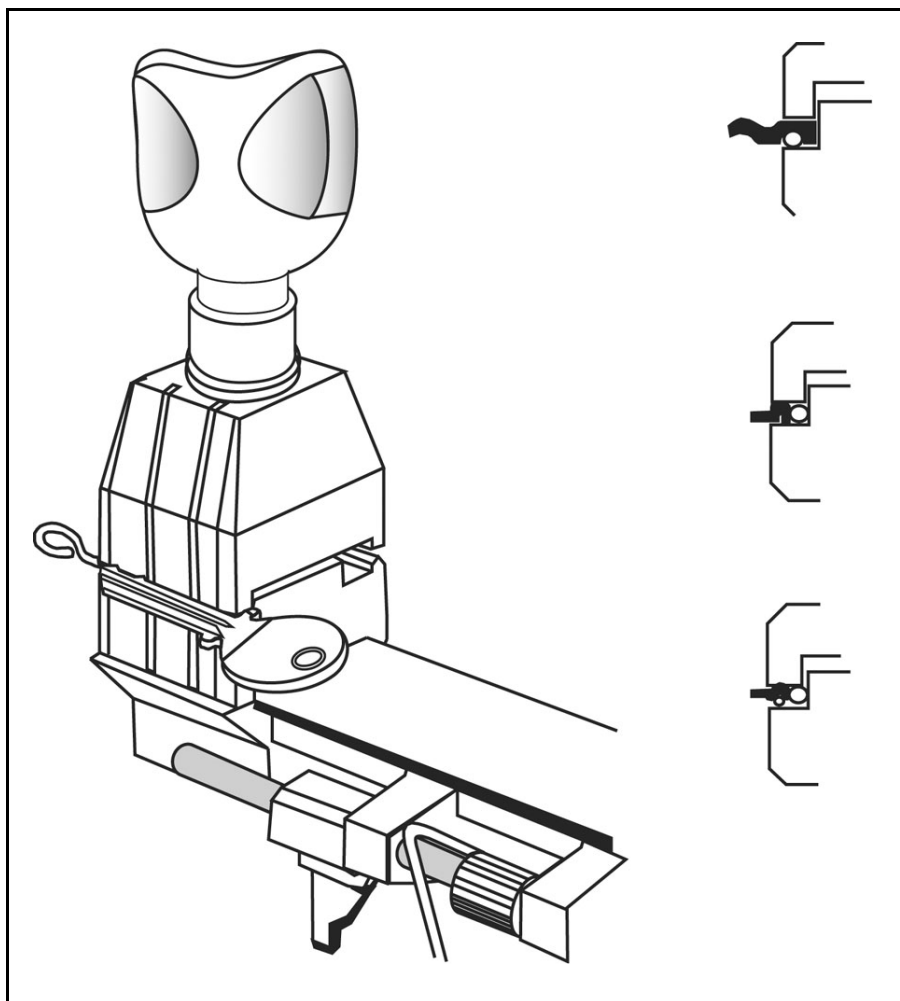


Figure 12: Use of shims

Warning:



## IMPORTANT!

Before carrying out any maintenance operation you must turn **OFF** the power and disconnect the machine from the mains.  
The operator must make sure that nobody can energise to the machine.

When carrying out maintenance follow the instructions of this manual with care to prevent any injuries to people and damage to the equipment.

Maintenance must be carried out only by qualified personnel equipped with appropriate protective devices for a safe work.

Always use original spare parts.

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## 7.1.0 GENERAL INFORMATION

### 7.1.1 SKILLS OF MAINTENANCE PERSONNEL

Maintainers must have specific theoretical and practical skills, that is, they must be qualified.

#### OPERATOR

The machine operator must be knowledgeable about machine operation.

#### PERSONNEL AUTHORIZED BY KEYLINE S.P.A.

Personnel from Keyline S.p.A. Technical Support Service or else officially authorised by Keyline S.p.A. Technical Support Service.

### 7.1.2 TYPE OF MAINTENANCE

Maintenance can be subdivided into the following types, according to the operations involved:

- Ordinary maintenance
- Extraordinary maintenance



### ORDINARY MAINTENANCE

Servicing operations that must be carried out periodically by the machine operator.

The purpose of ordinary maintenance is guarantee regular functioning of the machine and a consistent quality of the product.

The maintenance schedule may vary in relation to work or environmental conditions in the place of installation.

### EXTRAORDINARY MAINTENANCE

Extraordinary maintenance consists of actions to be taken only when given conditions occur (break downs, failures, replacement of parts );

On account of the complex nature of such actions and the special tools required, we recommend you should contact qualified personnel from or authorised by **Keyline S.p.A.**

## 7.2.0

### ORDINARY MAINTENANCE

The following is a list of the most common ordinary maintenance activities that can be carried out by the machine operator. We recommend inspecting the machine periodically and replace worn parts.

### 7.2.1 REPLACING THE MILLING CUTTER

Replace the milling cutter whenever it is worn.

#### REQUIRED TOOLS

- Fork spanner;
- N° 2 hexagon spanners (diameter: 6 mm - 4 mm).

#### PROCEDURE

Warning:



#### **IMPORTANT**

---

**Press the main switch to turn OFF the power and disconnect the power cable from the mains before carrying out the operation below.**

---

1. Remove the protective eyeguard by unscrewing the 2 fixing screws;

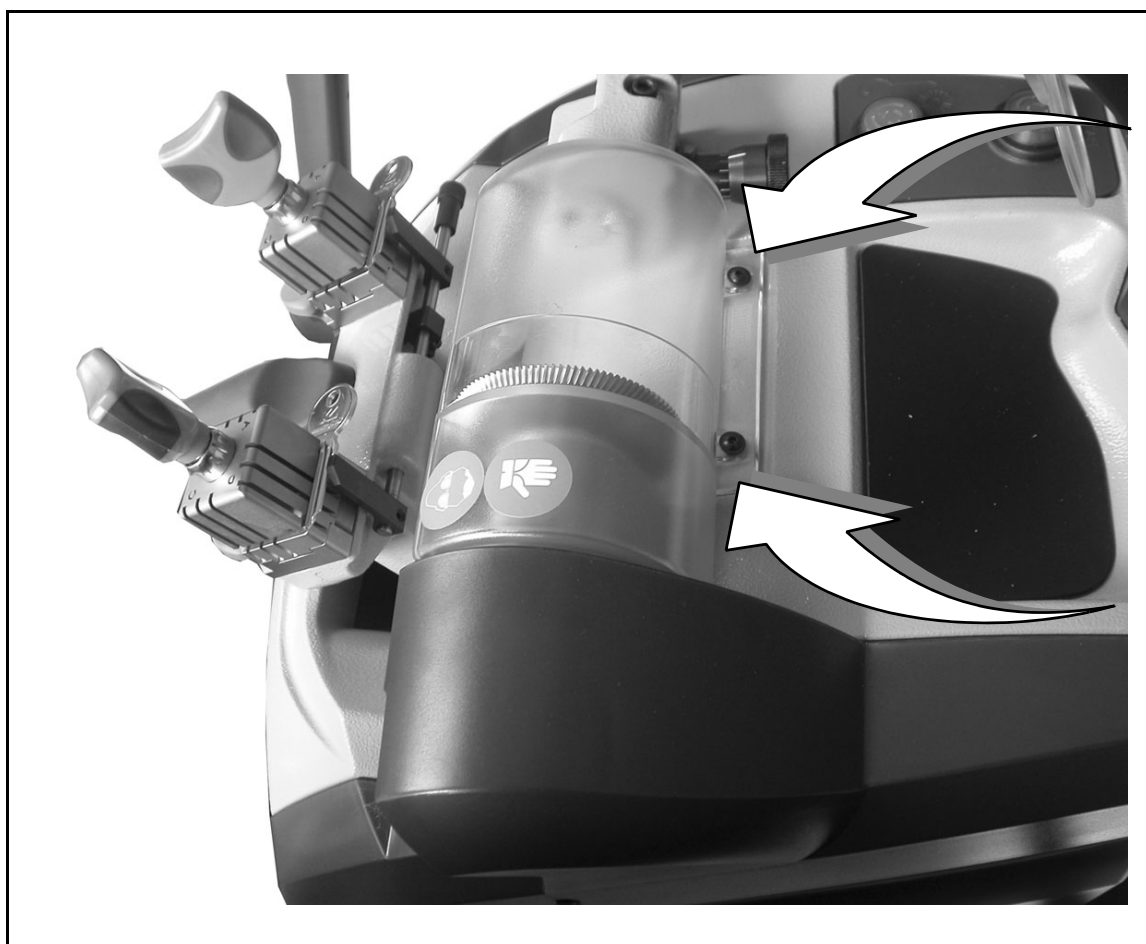


Figure 13: Disassembling the carter

2. Introduce the locking rod into the cutter shaft hole to lock it; at the same time loosen the cutter shaft check nut with the fork spanner from the left side of the milling cutter (see figure 14);

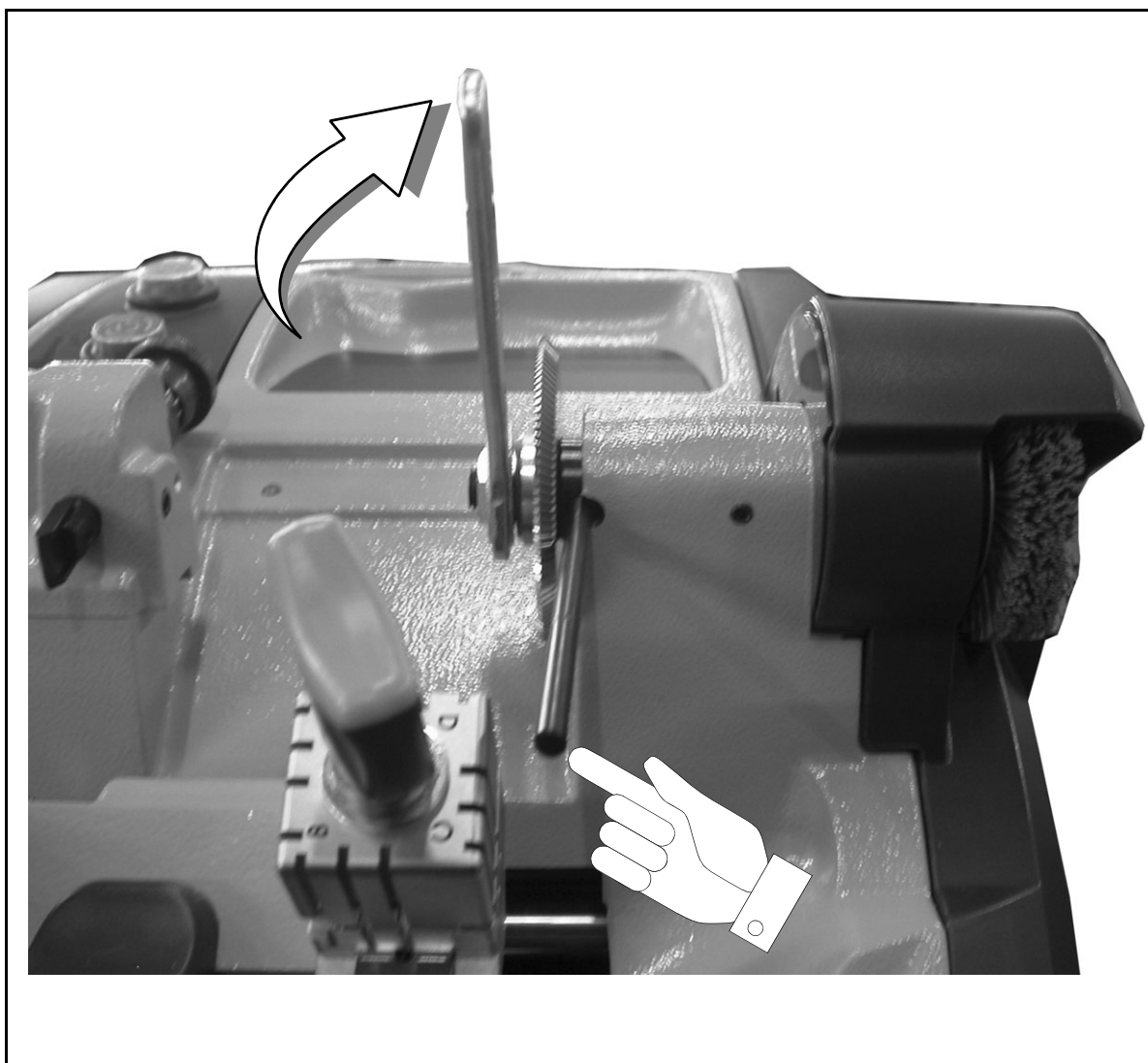


Figure 14: How to replace the cutter



**The left side of the nut is threaded, so, turn it clockwise to loosen it.**

3. Remove the cutter from the shaft;
4. Clean shaft and milling cutter;
5. Replace the cutter with an original spare part;
1. Tighten the nut with a fork spanner turning it counter clockwise while holding the hexagon base to prevent the shaft from moving;
6. Re-install the machine cover;
7. Re-install the machine cover;
8. Go through the steps described in paragraphs 6.2.3 e 6.2.4.

## 7.2.2 REPLACING THE BRUSH

### REQUIRED TOOLS

- N° 2 hexagon spanners (diameter: 6 mm - 4 mm);
- Fork spanner.

### PROCEDURE

Warning:



### IMPORTANT

---

**Press the main switch to turn OFF the power and disconnect the power cable from the mains before carrying out the operation below.**

---

1. Introduce the locking rod into the cutter shaft to lock it and at the same time loosen the brush nut by means of the 6 mm hexagon spanner (see figure 15);

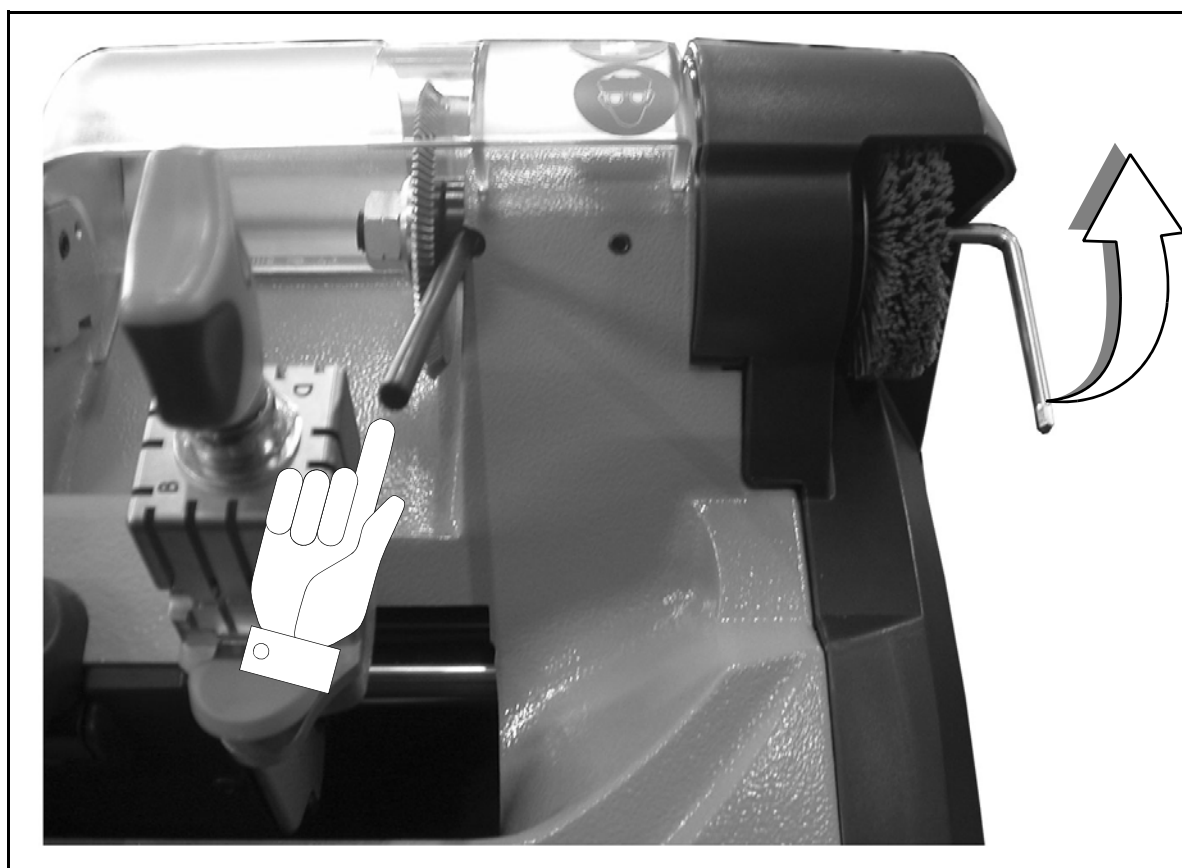


Figure 15: How to replace the brush

2. Replace the brush paying attention that the shim remains between the brush and the belt pulley;
3. Go through the same steps in inverted order to fix the brush and re-install the protection guard.

### 7.2.3 REPLACING THE BELTS

In case of vibrations coming from the upper part of the key cutting machine, adjust the belt tension or replace the belts.

#### REQUIRED TOOLS

- N° 2 hexagon spanners (diameter: 5 mm - 4 mm);
- Wrench (diameter: 10mm).

#### PROCEDURE

Warning:



#### **IMPORTANT**

**Press the main switch to turn OFF the power and disconnect the power cable from the mains before carrying out the operation below.**

1. Loosen the 5 screws that hold the cover (X);
2. Remove the cover and disconnect the cables;

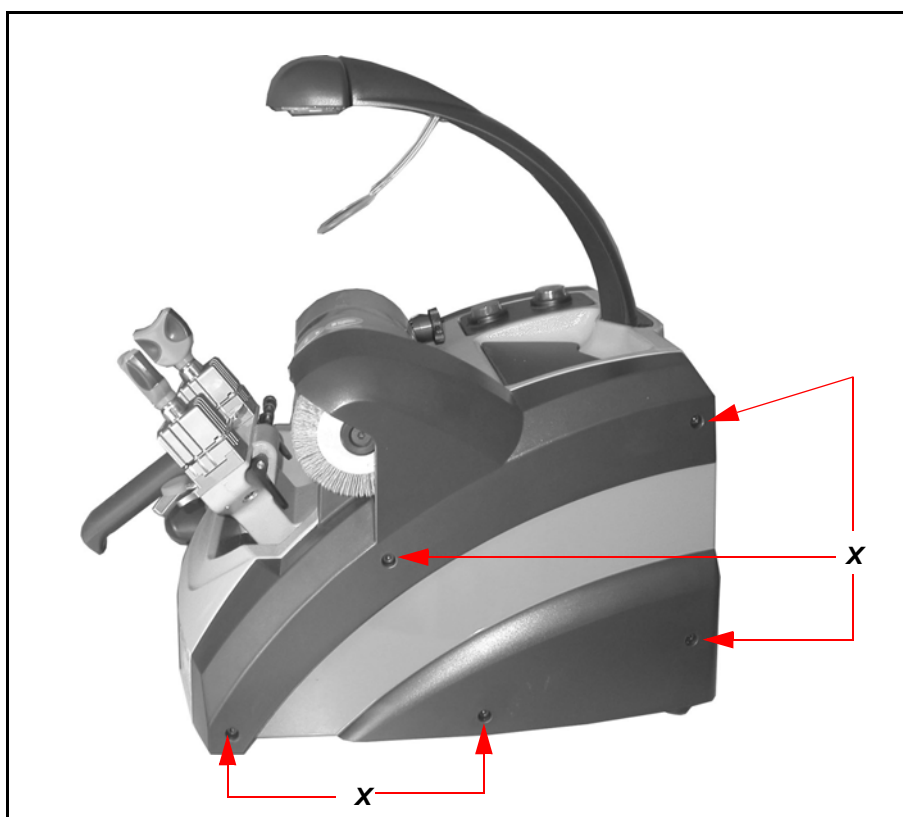


Figure 16: Disassembling the motor carter

**BELT TENSION:**

1. To adjust the belt tension, **tighten** or **loosen** the nut (Y) located on the side of the machine (see figure 18), by means of the 3 mm hexagon spanner;
2. Fasten the nut through the nut with the 10 mm spanner.

**REPLACING THE BELT:**

1. To replace the belts **loosen the nut** (Y) located on the side of the machine (see figure 18), by means of the 3 mm hexagon spanner;
2. When the belt is replaced and the tension is appropriate lock the nut through the nut with the 10 mm spanner.

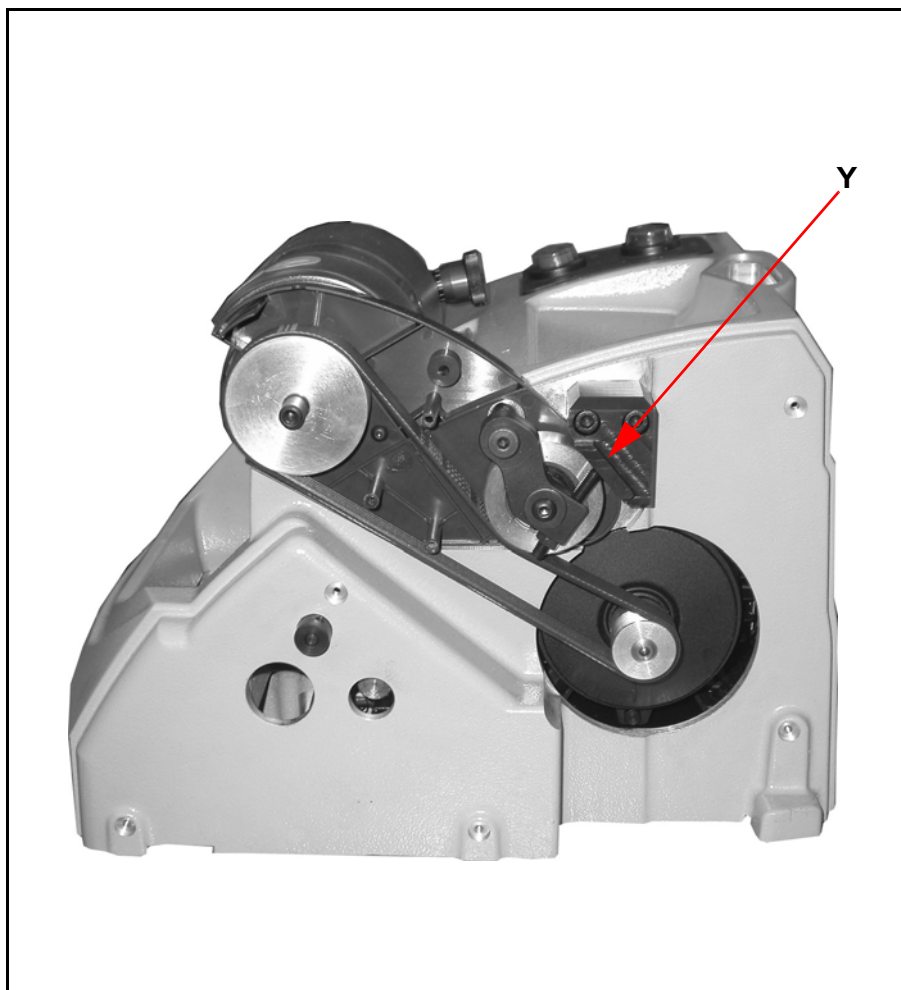


Figure 17: How to replace the belt

## 7.2.4 REPLACING THE TRACER

### REQUIRED TOOLS

- Hexagon spanners (diameter: 4 mm).

### PROCEDURE

Warning:



### IMPORTANT

**Press the main switch to turn OFF the power and disconnect the power cable from the mains before carrying out the operation below.**

1. Use the 3 mm hexagon key to loosen the locking screw (1) ;
2. Remove the tracer from its casing and replace it;
3. Fasten the new tracer going through the steps in inverted order.

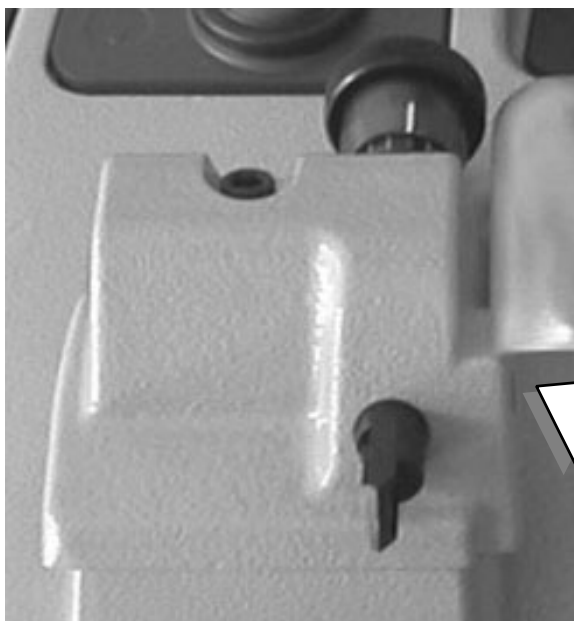


Figure 18: How to replace the tracer point



## 7.2.5 REPLACING THE LAMP

### PROCEDURE

Warning:

**IMPORTANT**



**Press the main switch to turn OFF the power and disconnect the power cable from the mains before carrying out the operation below.**

1. Loosen the 3 screws that hold the cover (X);
2. Remove the lamp holder (20);
3. Replace the lamp (15W 230V);
4. Insert the lamp holder again (20).

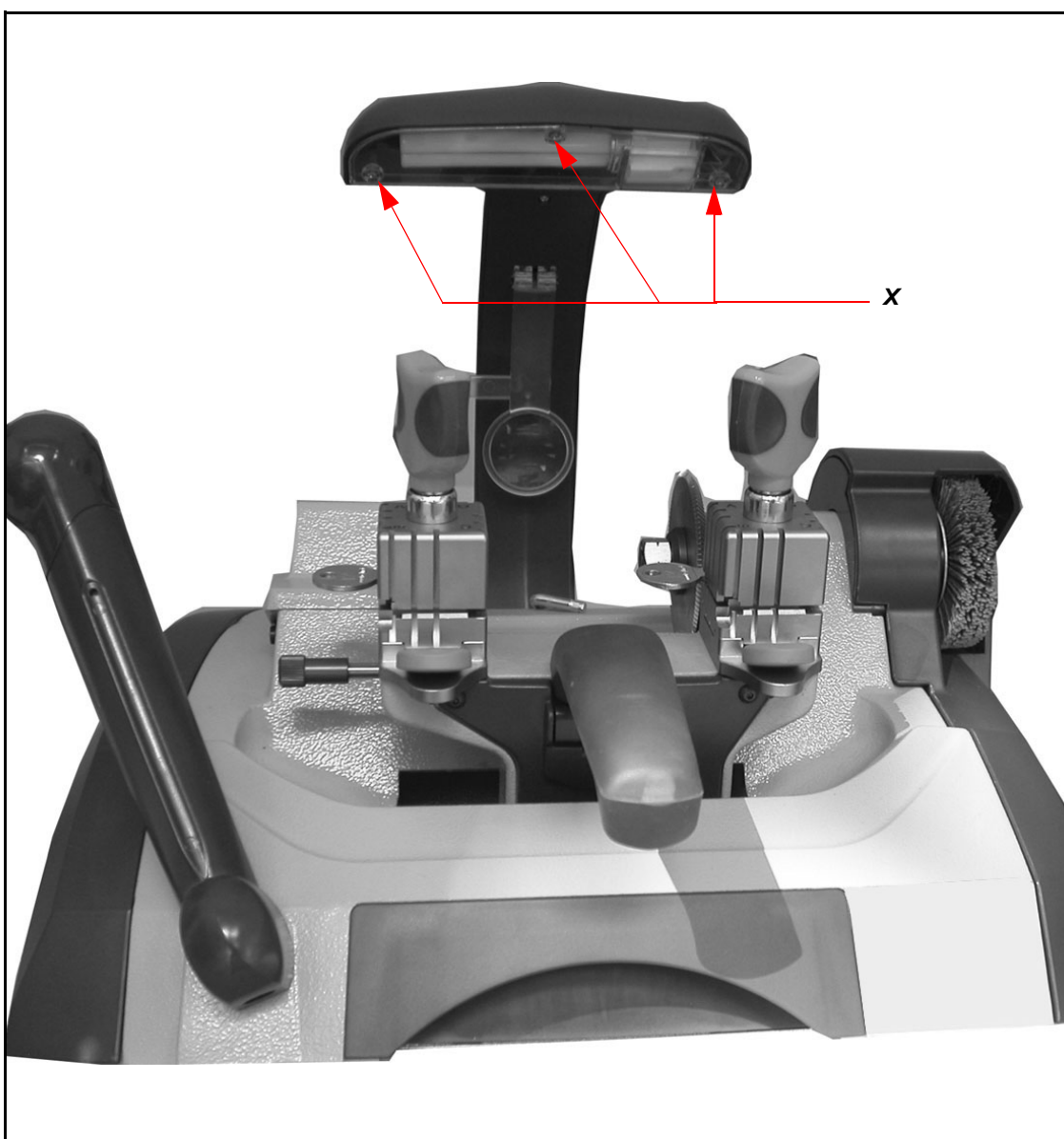


Figure 19: Lamp

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**KEYLINE**



**7.3.0****CLEANING THE MACHINE**

At the end of each working day clean the machine removing scrap and burrs to ensure proper functioning of the machine and to prevent any damage to its parts.

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## 8.0.1 WASTE DISPOSAL

The disposal of waste generated by the machine shall be managed in compliance with the legislation in force in the user's country.

In Europe machine shop rejections are classified as special waste and are assimilated to metal wool when it comes to managing municipal solid waste (MSW).

Such waste must be disposed of according to the legislation in force in the user's country.

If machine shop rejections have been contaminated or contain toxic or harmful substances they are considered as toxic -harmful waste and disposed of accordingly in compliance with the legislation in force.

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**The user is responsible for a correct waste management.**

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## 8.0.2 DISPOSAL OF THE PACKING MATERIAL

Our key cutting machines are delivered in cardboard packages that can be recycled as packing material.

In case of disposal, packing material is treated as municipal solid waste (MSW) and is usually collected together with paper materials.

Protective covers are made of polystyrene and must be sent to suitable waste disposal sites as other municipal solid waste of the same type.

## 8.1.0 THE WEEE DIRECTIVE

When disposal becomes necessary, the **BIANCHI 106** appliance is to be considered as belonging to the WEEE category (Waste Electrical and Electronic Equipment).

**Keyline S.p.A.** has always taken great care to protect the environment and complies with the legislative decree on WEEE that has been in force since 13/08/2005. As a consequence, in accordance with the prescriptions of directive 2002/96/CE, this appliance cannot be disposed of as household waste (in compliance with the special symbol shown below).



- Whoever disposes of this appliance illegally or as household waste will be subject to the sanctions foreseen by current national legislation.
- According to the provisions of current national legislation, this appliance cannot be disposed of as household waste. Therefore, at the end of its lifecycle, after having carried out the operations that are necessary for correct disposal, the appliance must be taken to one of the differentiated waste collection centres for electrical and electronic waste from domestic households. Refer to the collection centre in your own town, which will guarantee the functionality, accessibility and suitability of the differentiated collection systems, so that the final holder and distributors can take the waste that they produce in their area to collection centres, free of charge.

