



**Börkey 994 REXA 2000 PLUS VB**  
**Börkey 994 REXA 2000 PLUS**  
**INSTRUCTIONS FOR USE**



# Semi automatic key cutting machine

## Börkey 994 REXA 2000 PLUS VB

## Börkey 994 REXA 2000 PLUS

for cutting cylinder-, car- and cross keys up to 120 mm length.

### Main characteristics

- copying every cutting angle without changing the cutter
- new developed anti-twisting device, adjustable to different key size (machine version 994 REXA 2000 PLUS)
- 4-way reversible vices (machine version 994 REXA 2000 PLUS VB)
- abraision parts are interchangeable
- maintenance-low cutting spindle fitted in a ball-bearing
- feeler fine adjustment - depth and spacing
- when operating the carriage the cutter will start- and stop running automatically
- security-switch against automatic running of the machine after cut of power supply

### Technical data

Input:	180 w
Voltage:	110 v
Frequency:	60 cycles
Weight:	32 kgs.
Dimensions:	60x35x37 cm
Sound level:	77 dB(A)

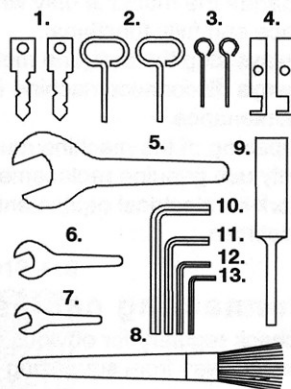
Protection fuse:	3.1 A
------------------	-------

### Standard tool kit equipment

1. 2 check up keys
2. 2 pins Ø 1.8 mm
3. 2 pins Ø 1.2 mm
4. 2 flat bars with cut-out section
5. 1 O.E. spanner SW 24
6. 2 O.E. spanner SW 10
7. 1 O.E. spanner SW 8
8. 1 brush
9. 1 steel bar Ø 4 x 150
10. 1 allen key SW 5
11. 1 allen key SW 4
12. 1 allen key SW 3
13. 1 allen key SW 2.5
- 1 tool kit box

### order.- no.

- |              |
|--------------|
| 9954-204-008 |
| 9954-204-009 |
| 9954-204-010 |
| 9954-204-014 |
| 9000-023-003 |
| 9000-023-008 |
| 9000-023-001 |
| 9000-021-001 |
| 9000-132-001 |
| 9000-022-005 |
| 9000-022-004 |
| 9000-022-003 |
| 9000-022-002 |
| 9000-190-002 |



## Notes to the instructions of use

Read the instructions for use very carefully and pay attention to their notes. The instructions of use section contains important information on how to operate the key machine safely and accurately. In addition to the operating instructions the respective national rules + regulation for accident prevention and environmental protection must also be observed.

**The instructions must always be at hand at the place of use of the machine !**

## Duly use of the machine

Only use the key machine for cutting cylinder-, car- and cross keys. Using the machine for purpose other than those mentioned above is considered contrary to its designated use. The manufacturer cannot be liable for any damage or injury resulting from misuse. The risk is entirely with the user. Operating the machine within the limits of the designated use also involves observing the instructions set out in the operating manual and complying with the maintenance directives.

## Fundamental safety instructions

Any work on or with the machine must be executed by competent personnel. Statutory minimum age limits must be observed ! Mount the machine to a dry rigid surface offering the correct working height for the operator. The machine must not be used outdoors or in areas with the danger of explosive or inflammable material. Before using the machine check that it complies (see sticker on machine) with the mains voltage. Mains connection must only take place through a fixed, approved and protected socket. Operate the machine only when all protective and safety-oriented devices are in place and fully functional. Always stop the machine motor after use or leaving the machine. Always disconnect machine from mains supply when repairing or doing routine maintenance. Repairing of the machine must only be performed by trained and instructed staff (only use genuine replacement parts). Work on electrical equipment on the machine must only be performed by a skilled electrician.

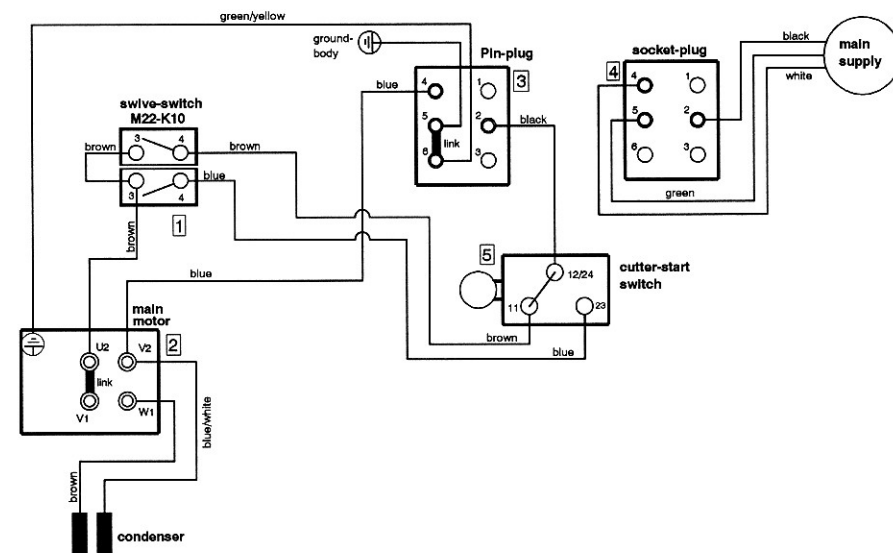
## Connecting cables

- check regularly for obvious damage, defects or ageing
- keep away from squeezing- and shearing places
- never use machine with defective cables

## Special warning

- never try to hold cutter unless machine is disconnected at mains !
- never grip- or remove keys with cutter still running !
- always wear safety goggles !
- make sure long hair is tied back or otherwise secured, never wear neck ties or loose fitting clothes !
- if trouble occurs switch off and unplug the machine immediately or disconnect fuse !

Picture 2 Wiring diagramm



- 1 = switch  
2 = main motor 63 C4 0,180Kw.  
3 = pin-plug  
4 = socket-plug  
5 = cutter-start-switch

- 9994-013-410  
9000-026-086  
9000-092-006  
9000-092 007  
9000-039-112

## Maintenance

Clean machine regularly with brush to avoid swarf accumulating.

-Do not use compressed air to clean machine !

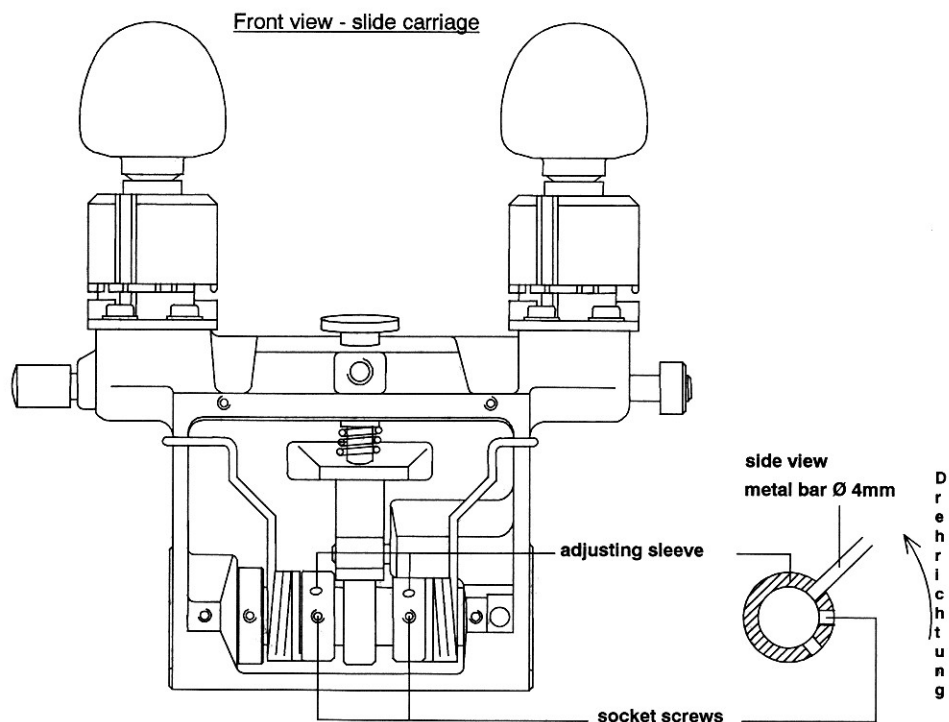
If after long service pressure of main carriage spring becomes weak it is adjustable. Insert metal bar in sleeve under the main carriage, loosen socket screw in sleeve and using metal bar to rotate sleeve upward, tighten socket screw and check operating tension.

Lubricate with good quality machine oil every 4 months (earlier if required) the following parts:

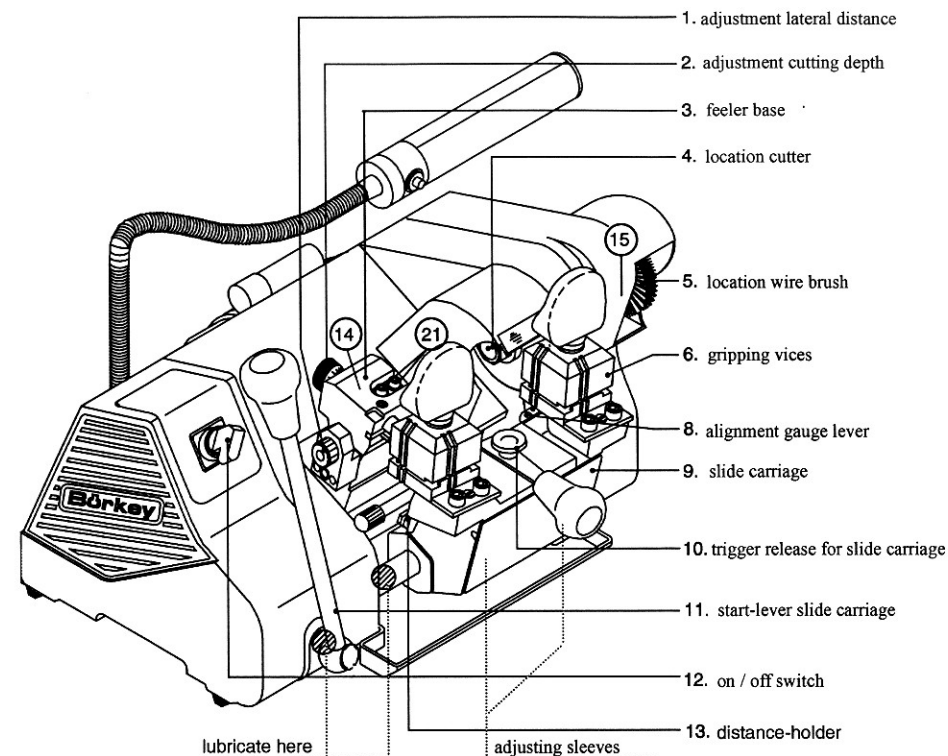
- carriage shaft
  - start lever for slide carriage
- (see parts shown marked page 7)

**Do not grease the cutter-spindle!**  
**Keep pulley wheel and drive belt always free of grease!**

Picture 3 Tension of carriage spring



Picture 4 Main functional parts



## Description of main functional parts

### Adjustment lateral distance (1)

Loosen the two socket screws (21). To adjust the lateral distance please turn the knurled nut(1).

After adjustment retighten the two socket screws.

### Adjustment cutting-depth (2)

To increase cutting depth:

Right turn (-) = loosen set screw (14). Turn the knurled nut (2) to the right (the feeler will move backwards).

To decrease cutting depth:

Left turn (+) = loosen set screw (14). Turn the knurled nut (2) to the left (the feeler will move forwards).

Retighten the set screw when the required depth is reached.

### Feeler base (3)

Feeler base (3) to hold the adjustable feeler.

Adjustment of the lateral distance see page 15.

### Changing cutter (4)

Switch machine off at mains.

Remove cutter guard. Loosen cutter nut (4) by pulling spanner (SW24) towards you, to stop the spindle turning, put the 4 mm bar from tool kit in the hole of the cutter axle.

Fit the new cutter and tighten cutter nut by pushing the spanner to the left.

Check the adjustment of the machine (depth and spacing - see page 15).

**Attention!**      **Remove all tools from cutter spindle before turning the machine back on at mains.**

### Changing wire brush (5)

Switch machine off at mains. Loosen set screw (15) with allen key SW3.

Pull the brush out of the cutter axle. Install new wire brush and retighten set screw (15).

### Gripping vices (6)

Gripping vices/jaws to hold keys and the special gripping devices.

Left vice to hold the sample- and right vice to hold the key blank.

### Anti-twisting devices (only machine 994 2000 PLUS)

In order to help prevent the keys from twisting in the vices during the cutting process please use the anti-twisting devices. Swing the devices forward.

Insert sample key and key blank and tighten the devices.

Afterwards tighten the vices.

### Alignment gauge lever (8)

The levers are used to correctly position key and key blank.

Preparing and checking see pages 13 and 15.

### Slide carriage (9)

Slide carriage for holding the vices - with spring tension, trigger release (10) and alignment gauge levers (8).

### Trigger release for slide carriage (10)

Safety device to hold the slide carriage (9) in „park-position“ for working on the vices (gripping of keys etc.). In order to release the carriage to the feeler and cutter push carriage little further down and press trigger release. Be aware of the spring tension of the carriage.

Releasing of the carriage only possible when alignment gauge axle (8) in „park-position“.

### Start lever slide carriage (11)

Movement of the slide carriage to the left and/ or to the right by using the start-lever (11).

The position of the start-lever is adjustable.

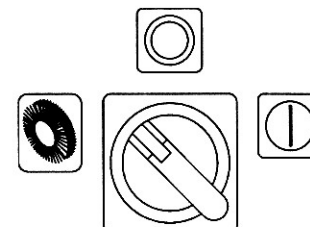
Loosen screw (17) and adjust start-lever (11) into the required position.

### On/off switch Wire brush (12)

Left position - wire brush is on

Right position - machine is on

Middle position- machine is off



### Distance holder (13)

Distance-holder to protect vices against damage through cutter.

Checking resp. adjusting necessary after changing of cutter or readjustment of the cutting depth.

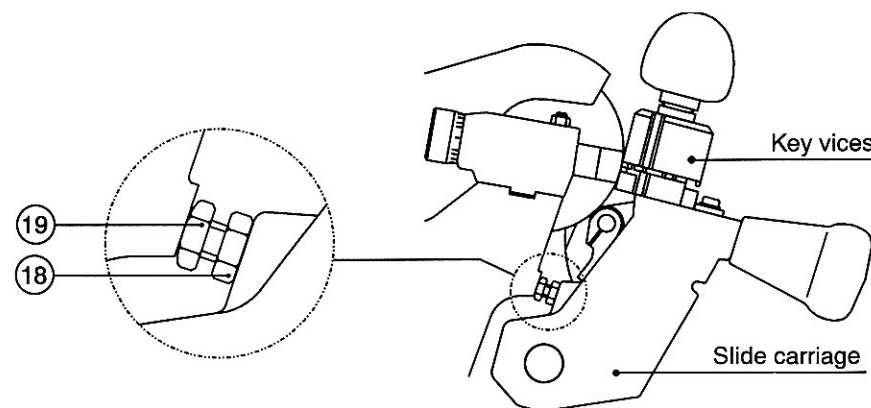
### Adjustment: - switch machine off at mains -

Slide carriage at „park-position“.

Loosen nut (18) with spanner SW10 and loosen the screw (19) only a little.

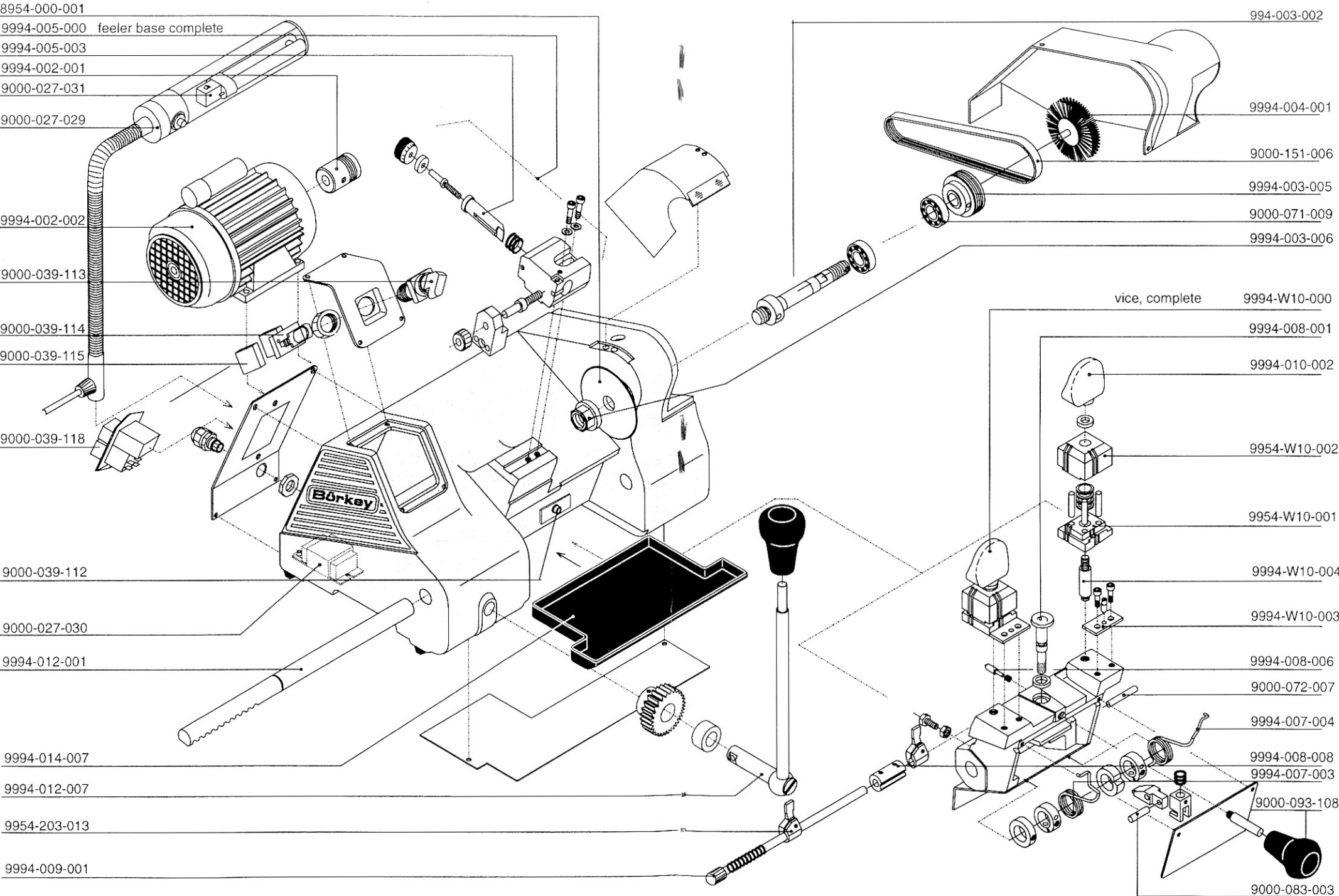
Release slide carriage gently to feeler and cutter. turn screw (19) until the required cutting-depth is reached.

When retighten nut (18) please secure screw (19) with spanner SW10.





SPARE PARTS



## Spare parts

8954-000-001	prismatic cutter
9994-005-000	feeler base complete
9994-005-003	feeler
9994-002-001	pulley wheel
9000-027-031	spare bulb
9000-027-029	work-light
9994-002-002	motor 230v
9994-013-410	ON/OFF switch complete
9000-039-113	position indicator
9000-039-114	fixed adaptor
9000-039-115	bottom part of the switch
9000-039-112	cutter-stop-switch
9994-003-006	hexagon nut
9000-027-030	lamp balast
9994-012-001	carriage axle
9994-014-007	chip tray
9994-012-007	start-lever slide carriage
9994-W09-001	alignment gauge lever
9994-009-001	alignment gauge axle
9994-003-007	bearing complete
9994-004-001	wire brush
9000-151-006	belt
9994-003-005	belt pulley
9000-071-009	ball bearing
9994-011-000	anti-twisting device complete
9994-W10-000	vice complete
9994-008-001	stop-bolt
9994-011-002	upper part of the anti-twisting device
9994-010-002	wing nut
9994-W10-002	upper part of the reversible vice
9994-W10-001	lower part of the reversible vice
9994-W10-004	threaded bolt for the vices
9994-W10-003	alignment-plate for the vices
9994-008-006	stop-bolt
9000-072-007	straight pin
9994-007-004	carriage spring right
9994-008-008	axle for trigger release slide carriage
9994-007-003	carriage spring left
9000-093-108	mushroom-handle
9000-083-003	grooved pin

### Vices for 994 REXA 2000 PLUS

9954-204-002	upper part of the vice
9994-010-001	lower part of the vice
9994-011-000	anti-twisting device complete

## Setting up machine for cutting a key

### Cutting keys with a shoulder for location (Pict. 5)

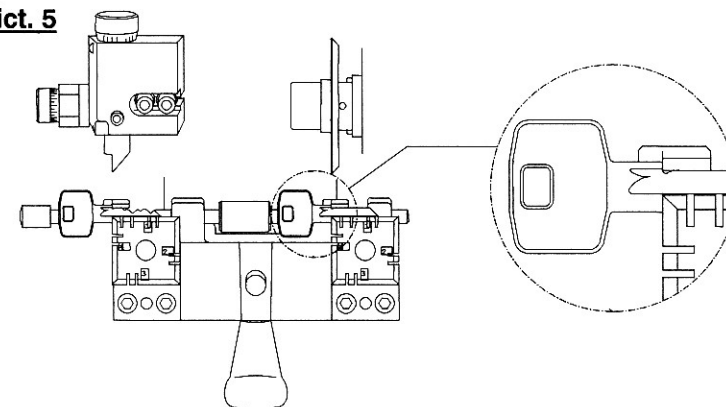
Fasten the pattern of the key to be reproduced firmly in the left hand vice with the shoulder of the key appr. 2mm away from the left hand side of the vice. Rotate the alignment lever until the flat edge of the left hand alignment guide locates against the shoulder of the pattern key. Fasten the key blank in the right hand vice with the shoulder of the key blank pushed firmly up to the right hand alignment gauge lever. When both key and key blank are correct located in the two vices rotate the alignment lever back out of the way. For location of keys with shoulder on both sides, push pattern and key blank firmly against the right hand side of the vices.

In order to prevent cutting into the vices when copying small keys or keys with deep-cuts (below 3.6 mm) use small round pins. Place the pins in the vice behind the back of the pattern and key blank.

Please use the on page 8 described anti-twisting device to help prevent the key and key blank from twisting.

Clean the vices and the key support regularly with the brush to avoid swarf accumulating.

**Pict. 5**

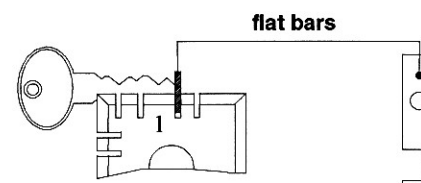


### Cutting keys without shoulders

#### for location (Pict. 6)

The correct positioning of this type of key is made possible by using the flat bars of the tool kit as tip-stops. Place these bars in the left or right hand slot-cut in both vice-faces (both pattern and key blank should be in the same position). Push pattern and key blank up to each bar and tighten the keys in the vices.

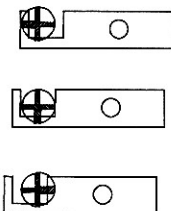
**Pict. 6**



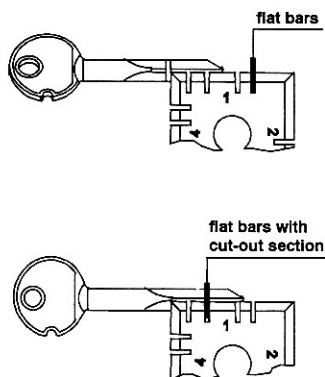
## Cutting cross keys (up to 120 mm)

Depending on the length of the cross keys use the flat bars as a shoulder stop to locate the keys. Place the flat bars in the slot-cuts of the left hand side of the vices. After gripping of the keys push the flat bars backwards. For location of cross keys with a ring push pattern and key blank with the ring firmly against the left hand face of the vices. Place a flat bar into one of the slots of the right hand side of the vices to prevent the top-part of the vices from moving sideways.

**Pict. 7**



**Pict. 8**



## Starting operation key cutting

Switch machine on at on/off switch (12), position right.

To release the carriage - see page 9. **Hold slide carriage carefully** at carriage knob and gently engage the feeler to the first cut of the pattern at the key bow. The cutter will start running automatically. By using the carriage start-lever(11) copy the key from the shoulder to the tip of the key.

After cutting push slide carriage back to „park-position“. The cutter will stop running automatically.

Use wire brush for deburring the key.

For using the wire brush please turn the position-indicator of the switch to the right position.

## Checking and adjusting

### Cutting depth (pict. 9)

Fasten check-up-keys (20) in the left- and the right-hand vice. Release carriage so that cutter and feeler are touching the edges of the check-up-keys.

Readjustment please follow instructions „adjustment cutting-depth (2)“ on page 7.

Necessary adjustment of the distance-holder (13) please follow instructions on page 9.

### lateral distance (see page 10)

#### Feeler - cutter

Fasten check-up-keys (20) in the left- and right-hand vice. For location push check-up-keys firmly against left hand side of the vices.

Release carriage so that cutter and feeler are exactly in the cuts of both check-up-keys.

**Readjustment:** Loosen the screws (21) of the feeler base (3). Readjustment by turning the knurled nut (1). Move the feeler base until cutter and feeler are exactly in the cuts of both check-up-keys. Tighten screws again

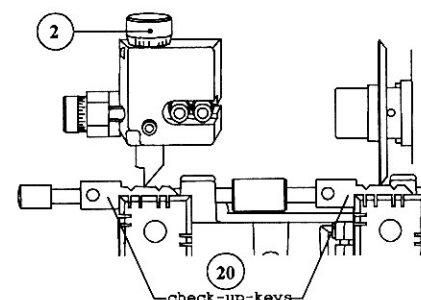
#### Alignment gauge lever

Rotate the alignment gauge lever until the flat edges of the levers locate against the shoulder of both check-up-keys.

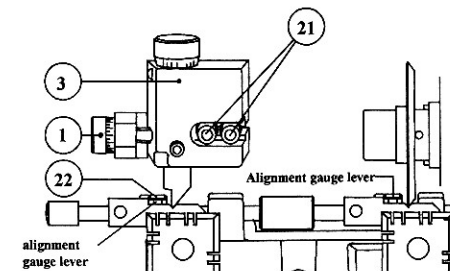
**Proof:** Insert a thin piece of paper between shoulder of check-up-keys and alignment gauge levers. Both pieces of the paper should be stuck.

**Readjustment:** Loosen screws (22) on the alignment gauge levers and push levers against shoulders of the check-up-keys. Tighten screws (22) again.

**Pict. 9**



**Pict. 10**

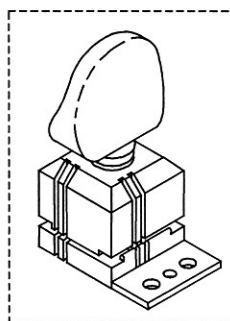
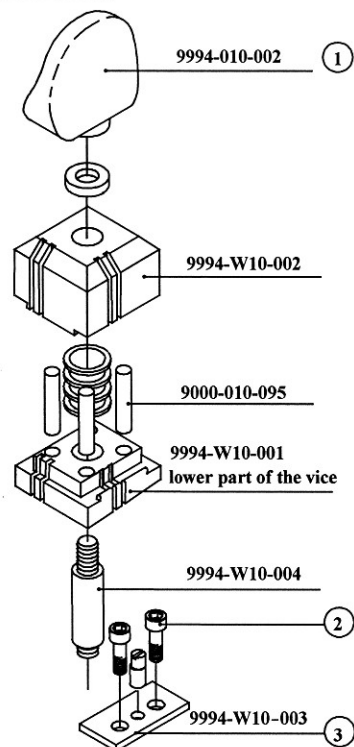




# Key cutting machine Börkey 994 REXA VB PLUS with 4-way reversible vices

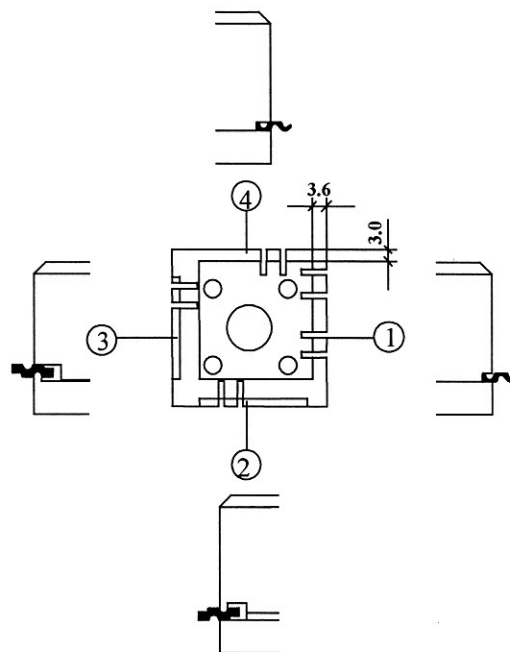
2 possibilities each of fixing the key at the base or in the profile

Pict. 1



reversible vice complete  
9994-W10-000

Pict. 2



## Different possibilities of fixing the keys in the reversible vices

- Side 1** Fixing of the keys at the base. For keys with a cutting depth of up to 3.6 mm. Cross keys up to a length 120 mm.
- Side 2** Fixing of the keys at the base. For keys with a cutting depth less than 3.6 mm.
- Side 3** Fixing of the keys in the profile (bottom side of the keys). A precise gripping of the keys is on the sides 1 and 2 impossible.
- Side 4** Fixing of the keys in the profile (top side of the keys). A precise gripping of the keys is on the sides 1 and 2 impossible.

## Working instructions

Make sure, that both vices ( for the pattern and the key blank) always indicate the same position (side number).

For changing the position (side number) loosen wing-nut (1) first and lift the complete vice in order to turn to the required position (side number).

### Special instructions: Parallelism of the gripping vices.

Checking:

Use vice-position (side) 1. Fasten check-up keys (20) in the left and right-hand vice. Release carriage so that cutter and feeler are touching the edges of the check-up-keys (from the shoulder to the tip).

Adjustment:

Loosen screws (2) of the distance-plate (3). Move the vice against the distance-plate until you reached the required position. Retighten screws (2).

## Fault finding

### Machine does not work

- Check mains plug is in socket and security switch against automatic running is on.
- Machine is not switched on (position „EIN“ at ON/OFF switch).
- Stop-switch at the slide carriage is defective.  
Attention: Work on electrical equipment on the machine must only be performed by a skilled electrician.

### Power is on but cutter will not rotate (machine is connected to power supply)

- Disconnect belt cover and brush.
- Check belt is connected or defective.
- Check if pulley wheel will turn.
- Check if motor axle will turn.

### Belt is defective

Change belt. Use only genuine belts. Loosen 4 nuts under body of machine and reposition motor until belt fits on both pulley wheels. Push motor back to old position and retighten nuts.

### Not possible to turn the motor- and/or cutter-axle

- Please contact our technical-service

### Work-light does not work

- Check if plug is in socket and turned on.
- Check lamp balast.

### Work-light is defective

- Change halogen bulb PS-S 7W/84 - order no. 9000-027-031.
- Disconnect the protective-tube from the switch first.
- Wear gloves before touching the bulb.

### Cutter is noisy, bad cutting quality or machine is out of adjustment

- Change cutter (see page 8).
- Check adjustment of machine (see page 15)

### Impossible to release the slide-carriage to feeler and cutter

Please check if alignment gauge axle is at „park-position“  
If yes - please contact our technical-service.

**In case of any other faults please contact our sales department. Tele. 02332/7006-0**

## Instructions to change the cutter-start-switch

The cutter-start-switch (23) is in front of the carriage at the side of the body.

### Removal and installation of the switch

Disconnect machine from mains supply.  
Loosen mains plug from circuit.

Unscrew the guards (24) of the elektronik construction and remove the cable-ends of the switch of the connections. (Refer circuit page 5)



Machine has to be set on end of the fundamental substance on the left side.  
Loosen the shee-metal (25) of the carriage and displace in that way that the switch (23) is reachable.  
Loosen nut of the switch and locking sheet-metal.  
Remove switch with cables.

Insert a new switch in reverse order.

