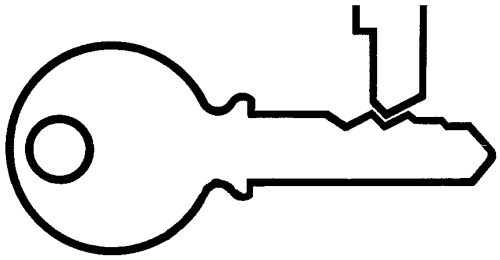

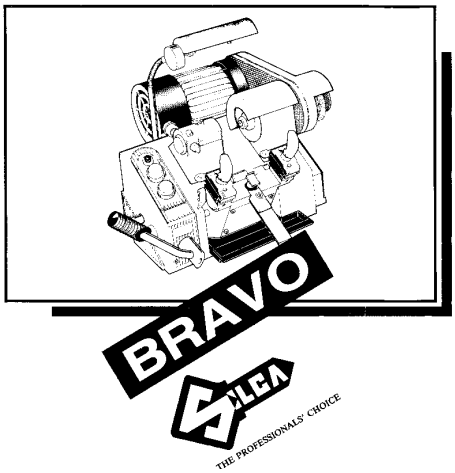

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Professional key cutting machine for cutting car and house hold cylinder keys and crucifix keys.

Micrometer adjustment for tracer.

Sloping base feed swarf into swarf tray.

Nylon finishing brush.

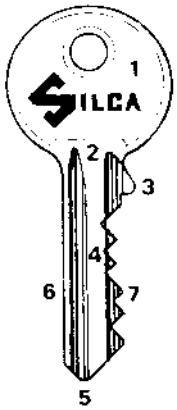
Carriage operates on twin sealed bearings.

Carriage automatically released once the gauges are disengaged.

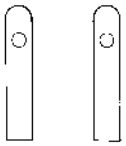
Carriage locks in down position.

Machined jaws giving excellent grip with minimal pressure.

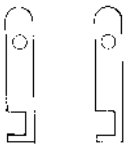
1	Head
2	Neck
3	Shoulder
4	Blade
5.	Tip
6	Back
7	Cutting



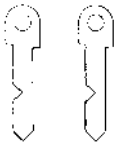
Cod. D601002ZC
Pair of steel Bars



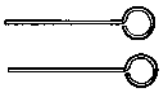
Cod. D601253ZC
Pair of steel bars with neck



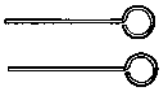
Cod. D601821ZC
Pair of setting blanks



Cod. D601251ZC
Pair of ∅ 1.20 mm steel pins



Cod. D601252ZC
Pair of ∅ 1.70mm steel pins



Cod. D400754BA

Cutter releasing bar 

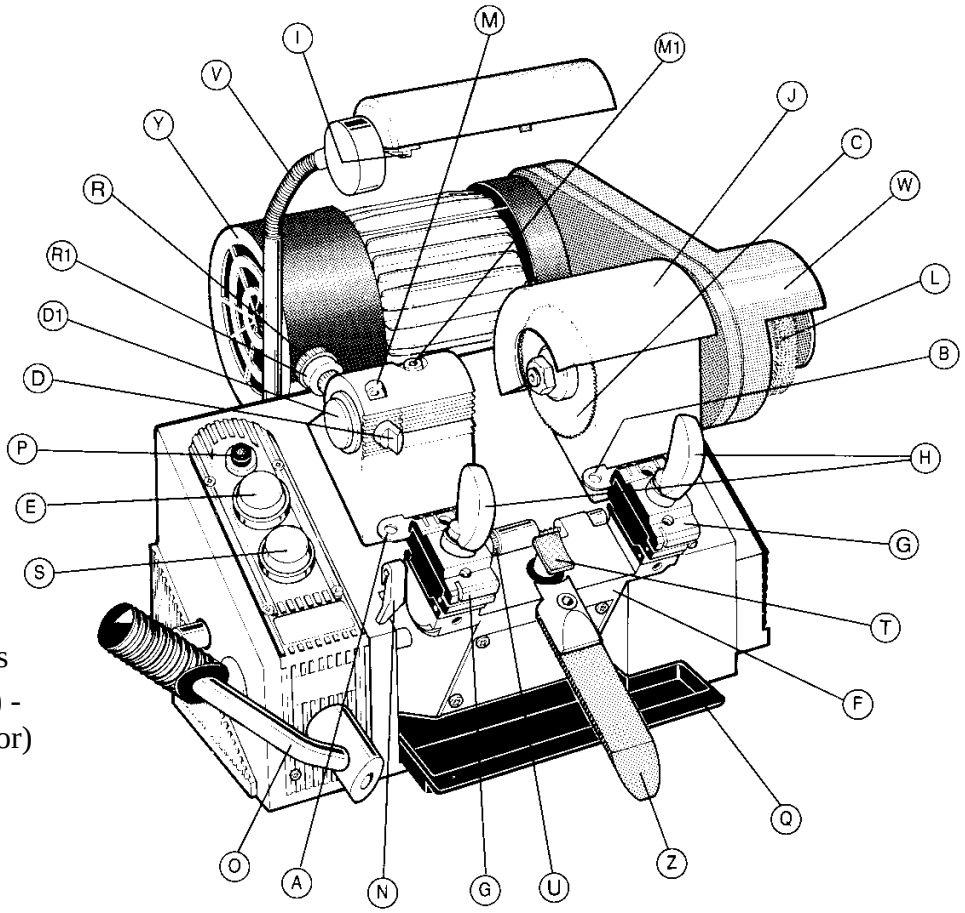
Cod. D601161ZC

Set of allan keys (6pcs) 

Cod. D300783ZZ

Spanner mm 19 

A) Original key
B) Key blank
C) Cutter
D) Tracer point
D1) Tracer point support
E) ON/OFF Switch
F) Complete carriage assembly
G) Jaw
H) Thumbscrew
I) Lamp switch
J) Transparent cutter shield
L) Brush
M) Tracer point locking screw
M1) Tracer point support lock nut
N) Gauge tabs
O) Carriage operator lever
P) Brush switch
Q) Swarf tray
R) Tracer point regulating knob
R1) Micrometer adjuster for depths
S) Start button (one speed motor) - Rotary switch (two speed motor)
T) Carriage release button
U) Drum for gauge rotation
V) 12V halogen lamp
W) Belt shield
Y) Motor
Z) Carriage handle



Technical Data

Bravo II (Made in Italy) 110V, 220V & 12VDC version a sturdy machine designed to deliver years of service. The **Bravo** II has 4-way vise jaws, twin carriage shafts, a safety release carriage, and a micrometer adjustable trace guide...

Cutter: High speed steel HSS ∅ 80X5X16

Movement: On bearings, Self cleaning cynterized bushes
Jaws: (1 speed version): Reversible and revolving in three different positions
Jaws: (2 speed version): Four sided, revolving
Safety Device: The carriage is released only when the gauges are in the stop position
Max. Cutting Length: 53mm
Dimensions: Depth 460mm – width 380mm – height 245mm
Weight: 18kg

Checking and Calibration of Machine

The machine is set and tested before leaving our workshops. However, before operating, it is advisable to carry out the following checks:

1) Place the machine on a bench high enough to give an overall view.
2) Ensure that the main voltage is the same as that of the motor, and then plug in the machine.
3) Check the settings as follows:

Setting the Cutting Depth (This must be carried out each time the cutter is changed):

1) Ensure that switch (S) is in the OFF position or, with the Rotary Switch version, on <O> so that the cutter is not operated when the carriage is raised.
2) Place the settings blanks (K) in the Jaws, see Fig 2a. Make sure that the backs butt into the shoulders are completely in contact with the gauges (N). To bring the gauges into contact with the blanks, use your thumb to turn drum (U) clockwise. Turning anti-clockwise will bring them into the stop position. **Attention:** The carriage cannot be released unless the gauges are in the stop position.
3) Release the carriage and take the keys up to the cutter and tracer point. Turn the cutter full circle by hand, in the opposite direction from the cutting action, checking that the cutter skims the key bit. To release the carriage, lower it slightly, at the same depressing button (T), and raise towards the cutter.
4) If the cutter is too low or too high, regulate the cutting depths with the micrometer tracer point: loosen screw (M) and turn the knob (R). Turning clockwise lowers the tracer point and therefore gives a deeper cut.
   Turning anti-clockwise raises the tracer point and the cut is shallower. The graduated drum is marked off in dimensions of 0.05 mm. When the cutter skims the key bit as required, tighten screw (M) and zero the tracer point by taking the indicator (R1) to the white mark, on the graduated drum. To do this, hold the knurled part of the knob ® still with one hand and turn the free part below it (R1) with the other hand. To copy worn out keys where the cuts are deeper than a new key, the duplicate can be corrected as follows:
   Loosen the tracer point lock nut (M) and trunk the tracer point regulation knob ® anti-clockwise to the required measurement. Tighten the tracer point lock nut (M) and cut the copy of the key. To re-set the machine, carry out the operations described above in reverse order.

Spaces Setting

1) Place the setting blanks in the jaws see Fig 2b with the groove facing the cutter, as described in points (1) and (2) above.
2) Release the carriage and position the keys so that the groove comes in contact with the cutter and tracer point. Turn the cutter full circle by hand, the opposite direction from the cutting action, checking that the cutter skims both sides, tighten screw (M1).

3) If the cutter skims only one side, loosen screw (M1) and move the tracer point support (D1) sideways. When the cutter skims both sides, tighten screw (M1).

4) Use handle (Z) to lower the carriage, which will automatically lock. Remove the adjusting blanks and activate switch (S) or, with the Rotary Switch version, select the first or second speed. The machine is now ready for operation; when the cutter carriage is raised the machine will automatically start.

Important: When the adjusting blanks have been used a number of times, they must be replaced.

Two identical key blanks can be used as an alternative.

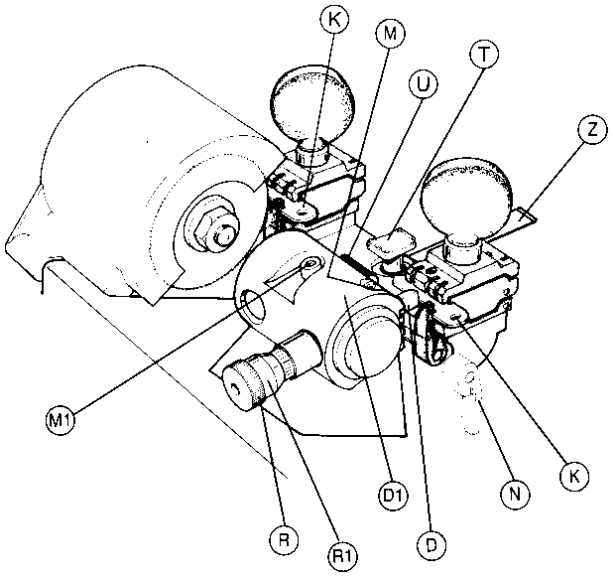


Fig. 2

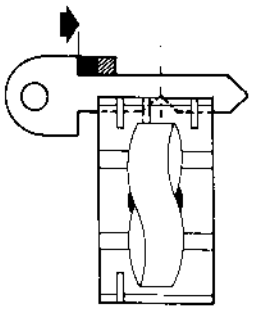


Fig. 2a

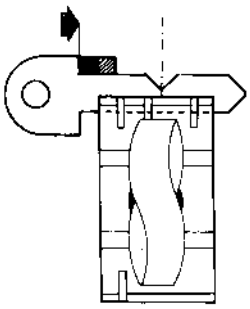


Fig. 2b

Use of the Clamps

Clamps are rotating and reversible to allow perfect blocking of the keys against the back and sides.

For keys cut on one side only such as Household Cylinder keys, postion the clamps as shown in Fig. 3

Make sure that the keys rest evenly on the bottom of the clamp and the key stop is butting against the gauge or against the clamp face.

Attention: THE CLAMP TIGHTEN KNOBS (H) HAVE BEARING DISCS AND THERFORE REQUIRE **MINIMUM PRESSURE TO TURN TEHM,**

Attention: do not interchange clamps.

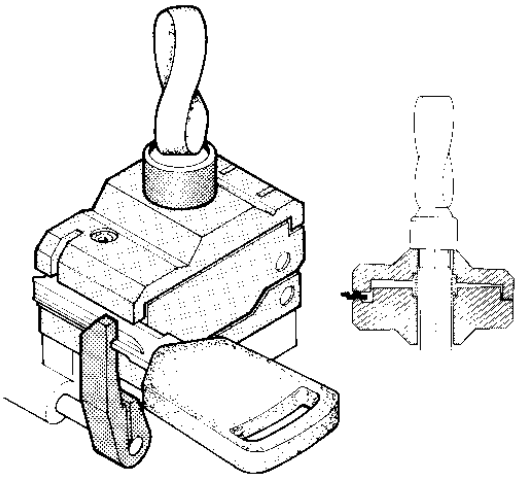


Fig. 3

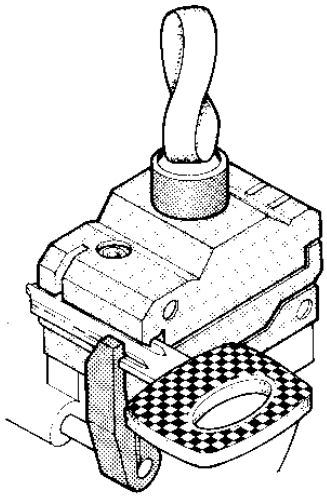


Fig. 4

For keys cut on both sides when you need to clamp by the groove on the underside of the key, simply rotate the jaw 180° as shown in Fig. 3.

Insert the keys with groove downwards, using the tooth of the lower clamp as a guide.

For keys with a small flat surface ensure that the key is positioned parallel with the base of the clamp.

For keys cut on both sides when you need to clamp by the groove on top of the key, the clamps must be placed upside down, as shown in Fig. 4. Insert the keys with the groove upwards, using the tooth of the upper jaw of the clamp guide.

For keys with a small flat surface ensure that the key is positioned parallel with the base of the clamp.

Use of the pins

(Code D601251ZC and D601252ZC – Fig 1)

-- To cut keys with narrow shafts insert the pins between the bottom of the clamp and the key so that the balder protrudes sufficiently to be cut (Fig. 4/1).

-- To cut keys with less than normal thickness and narrow shafts, two pins must be used (see Fig, 4/2). The second pin will allow the key to be tightly locked into the clamp.

-- For keys with broken shafts, a suitable pin is placed into the groove on the shaft so that it can be properly aligned for cutting (see Fig. 5). Naturally, the diameter of the pin/s used for the broken sample key will be the same for the blank, so that the tow keys can be locked in the same position.

The jaws are revolving so as to allow perfect clamping of the keys with both the back and profile in contact, as shown in Fig. 7. To turn the clamps, unscrew knob (H), raise the bottom of the clamp above the aligning plate and turn it around.

The same procedure as that described in Fig. 4 applies when using pins.

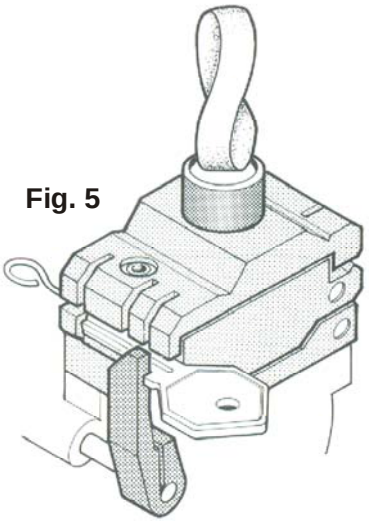


Fig. 5

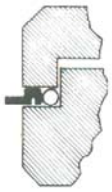


Fig. 5/1

Fig. 5/2

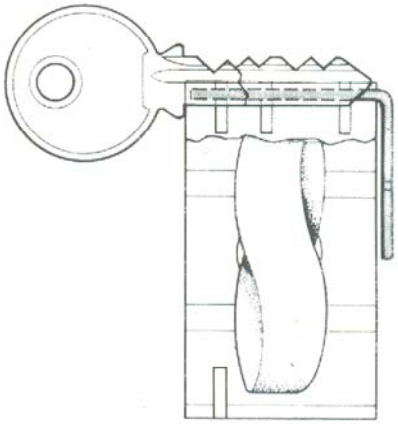


Fig. 6

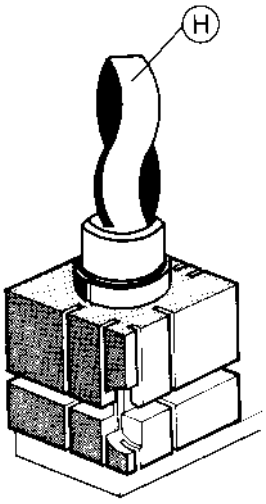


Fig. 6

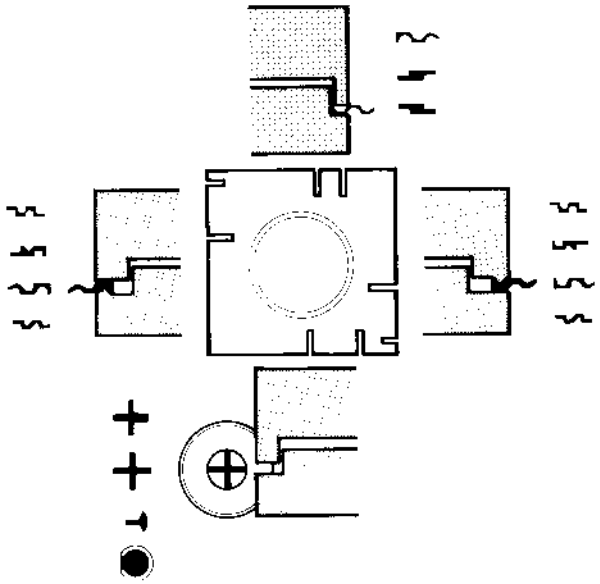


Fig. 6

Cutting Pin Keys with Standard Clamps

With normal or four sided clamps it is possible to cut most keys of this type, excluding those with a Y or T profile.

However, the key must be re-positioned for each side of the cut. Use the bars (code D601253ZC) to do this (Fig. 7).

1) Leave the gauges in the stop position
2) Put the bars into the slots on the Jaws. The key is cut in three operations, turning it and butting the stop against one of the three different positions on the bar (A-B-C) for each cut, as shown in Fig. 7.
3) Lock the master key into the clamp, butting the stop against the bar. Lower the bar into the slot so that it cannot be touched by the cutter or tracer point. Place the blank into the second clamp in the same way.
4) Cut the first rib.
5) Repeat the operation on the other ribs, turning the key in the same direction each time.

Fig. 7

Replacing the Cutter

Raise the cutter shield (J) and slide the locking bar (code D400754BA) into the groove in the base and in the hole in the cutter shaft, as shown in Fig. 8.

Use a spanner to loosen the cutter lock nut. (Cod. D300783ZZ).

Attention: The thread is left-handed.

When replacing the cutter, pay attention to the direction of rotation (clockwise).

Clean the cutter and shaft.

Tighten the lock nut.

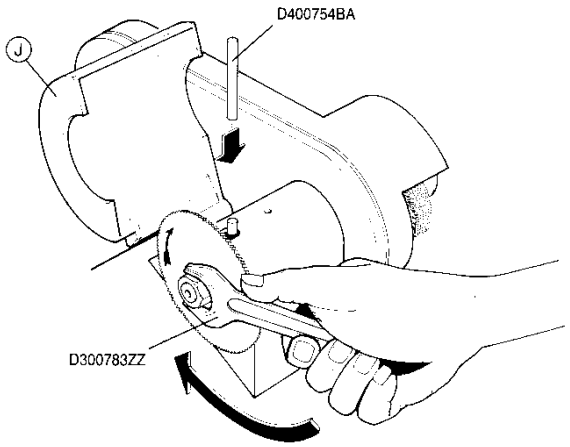


Fig. 8

Replacing the Brush

Unscrew the four screws holding the belt shield and remove it. Raise the cutter shield (J) and slide the locking bar

(code D400754BA) into the groove in the base and the hole in the cutter shaft, as shown in fig. 9. Remove the screw with the Allan Key (Code D301820ZZ) and replace the brush.

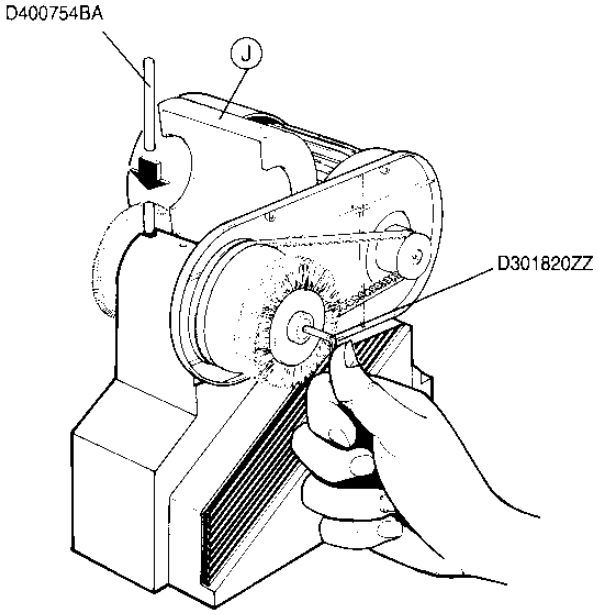


Fig. 9

Belt Tension and Replacement

If the belt should work loose, remove the shield, loosen the four nuts (*) holding the motor to the base (see Fig 10) and adjust the position until the belt tension is correct.

The belt is replaced in the same way.

Replacing the Tracer point

1) Completely unscrew the tracer point knob (R) and remove it, as shown in Fig.12
2) Completely unscrew screw (R2), loosen the dowel (M) and remove the tracer point (D) as shown in Fig. 13.
3) Replace the tracer point, carrying out the operation described in (2) in reverse order.
4) Replace knob (R) and tighten well. Re-set the machine following the instructions given before.

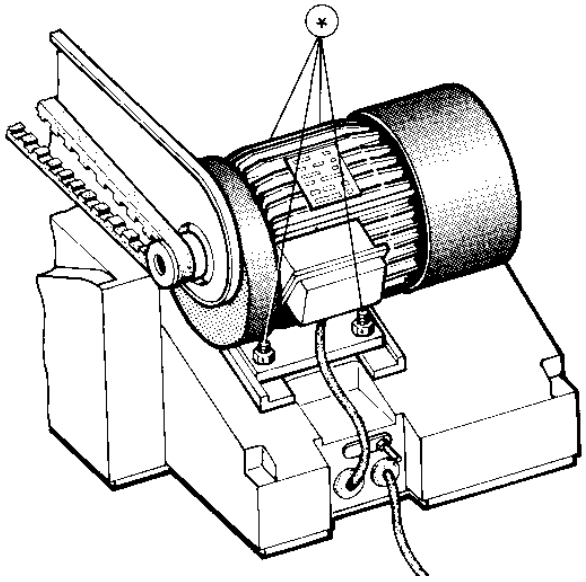


Fig. 11

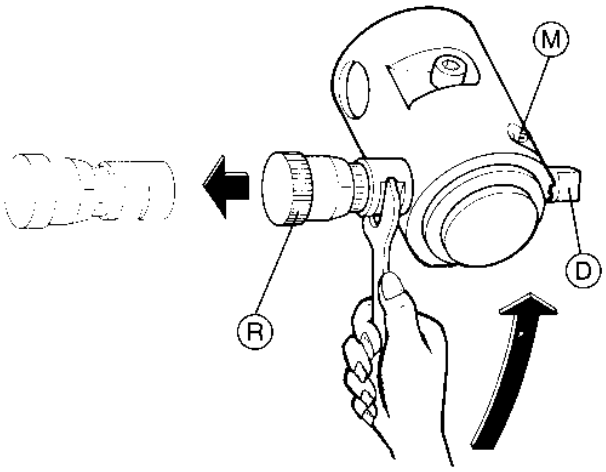


Fig. 12

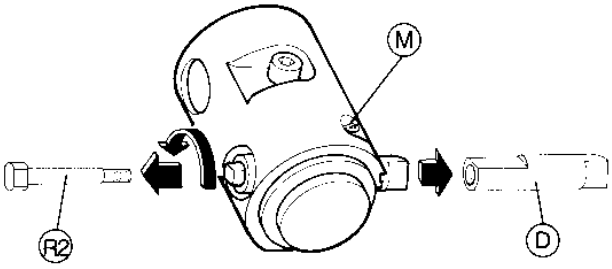


Fig.13

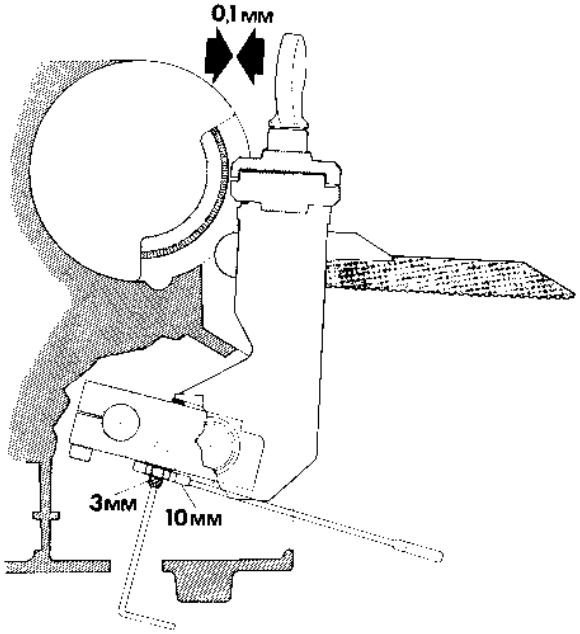


Fig. 14

Regulating the Safety Stop Position of the Carriage

Raise the carriage up to the cutter, a space od 0.1mm should remain between the cutter and the jaw. If this is not correct, adjustment should be carried out as follows:

1) Remove the swarf tray.
2) Unlock the 10mm nut (see Fig. 14).
3) Adjust the space by regulating the 3mm Allan screw through the hole in the base of the machine ten re-lock the nut with the 10mm spanner.

Electrical Diagram

1) Main switch
2) Brush button
3) Motor switch
4) Communicator 0-1-2
5) Micro switch
6) Lamp plug
7) Motor
8) Lamp
9) Lamp switch
10) Fuses 4A

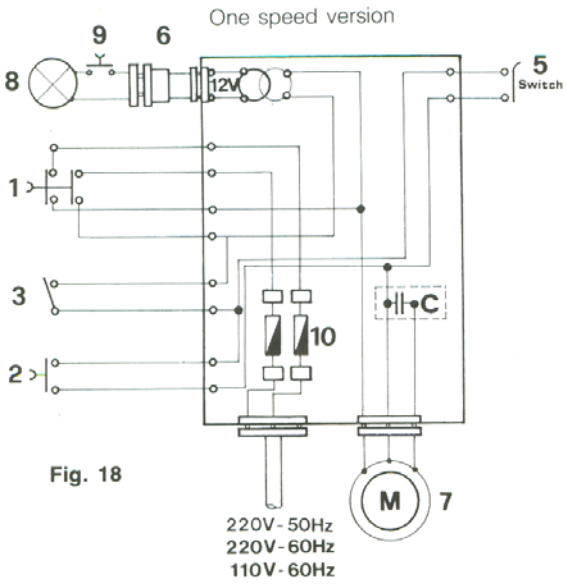


Fig. 18

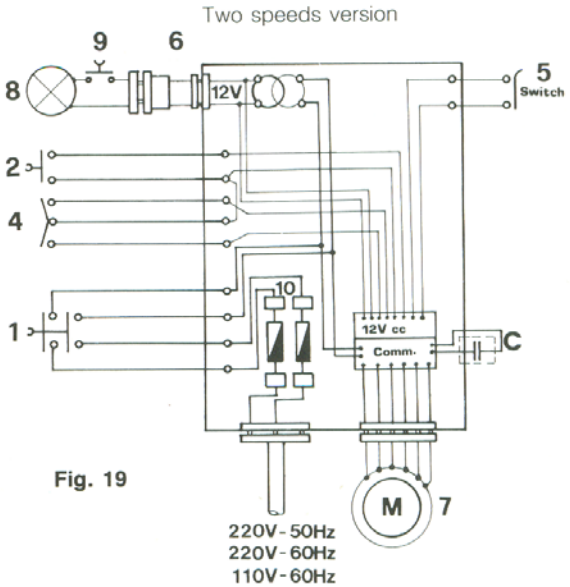
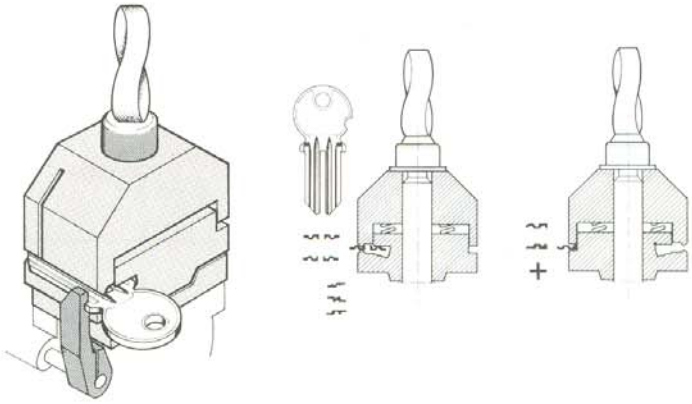
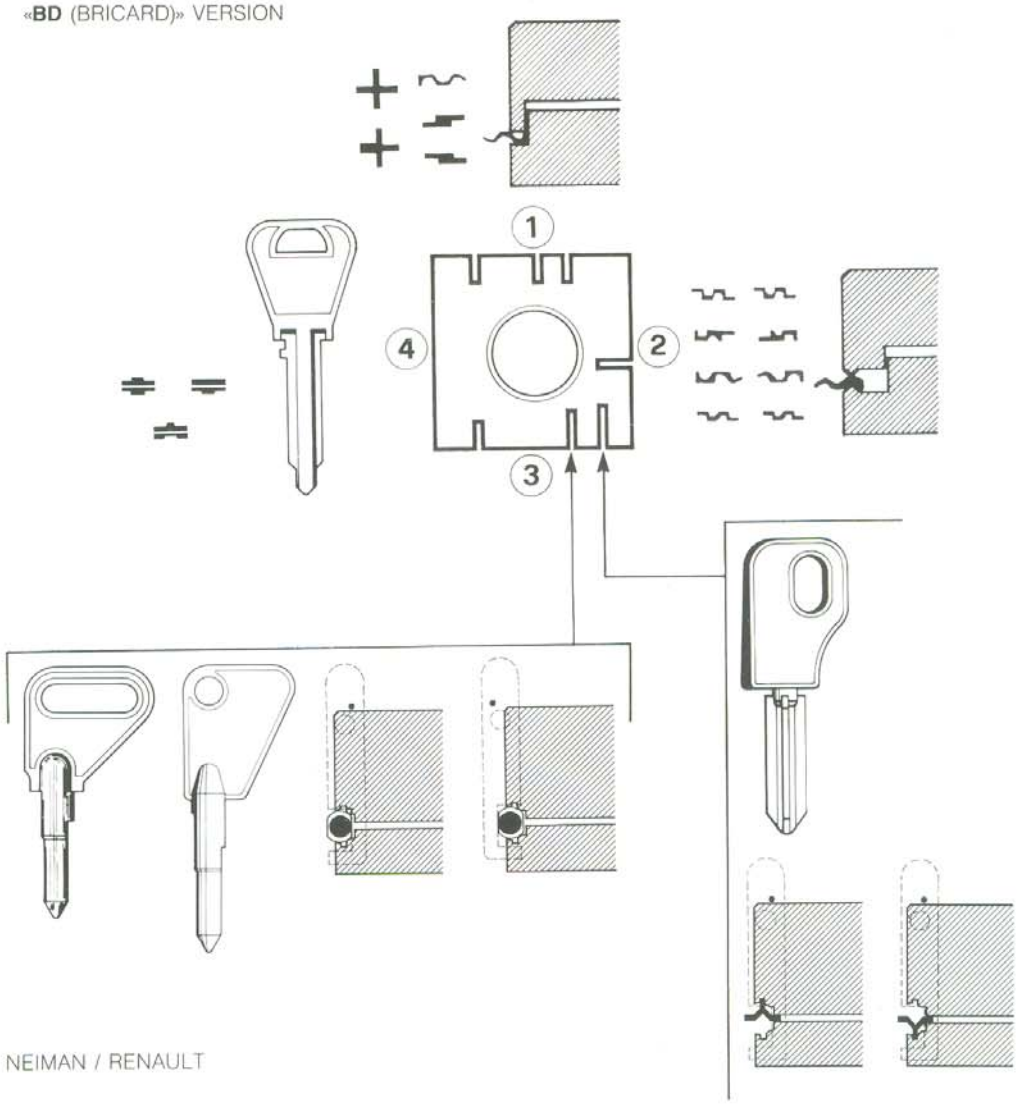


Fig. 19

«**SOFER**» VERSION



«**BD** (BRICARD)» VERSION



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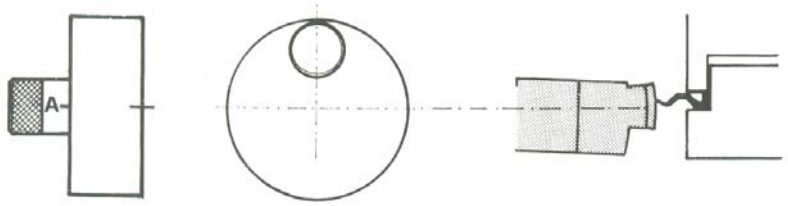
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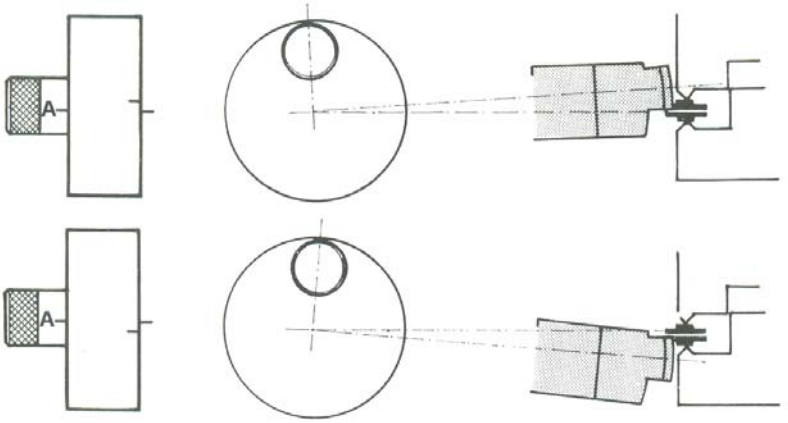
A
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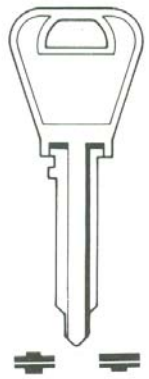
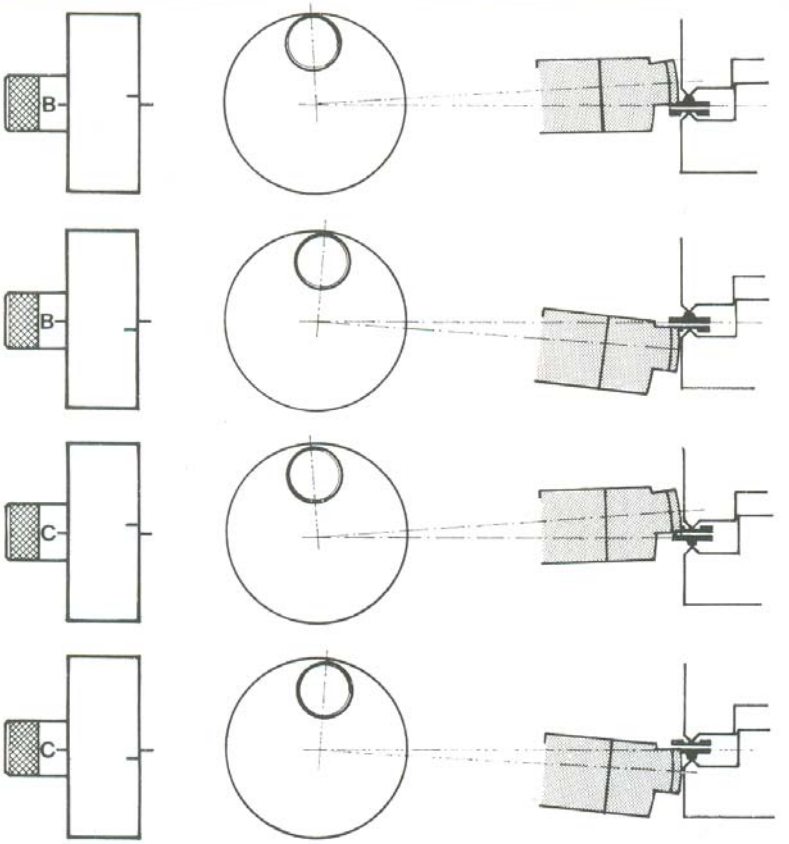
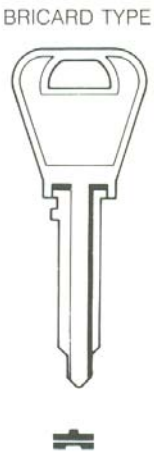

BRICARD TYPE


B
B
C
C


BRICARD TYPE