Zac Ligature

USE AND ASSEMBLY MANUAL

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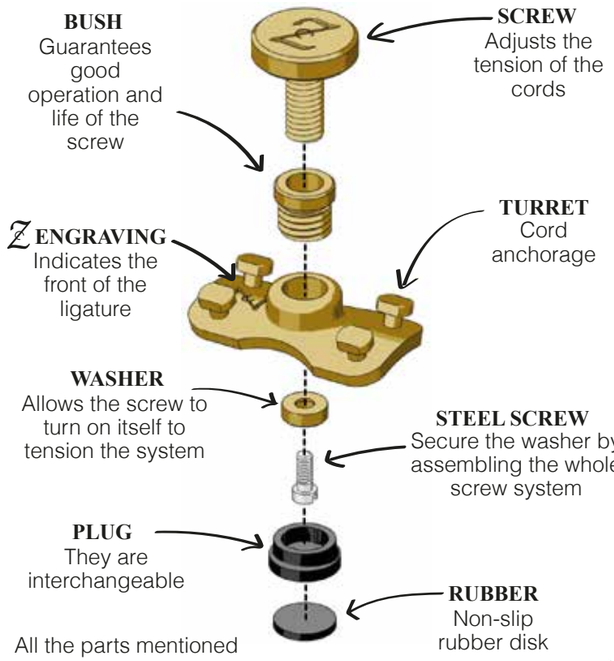
1 Z MACHINE

Also called "Mother Element",
it is the mechanical heart of ligature.

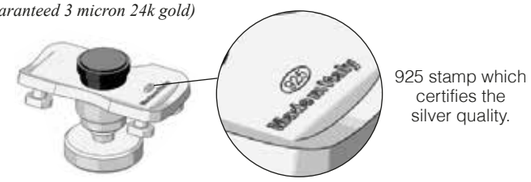


All the parts mentioned are replaceable.

METALS and FINISHES

Both models can be made both of 925 silver and brass, including all finishes.

Satin 925 silver	*Satin brass*
Polished 925 silver, rhodium plated	*Polished brass, rhodium plated*
Polished 925 silver, gold plated *(guaranteed 3 micron 24k gold)*	*Polished brass, gold plated* *(guaranteed 3 micron 24k gold)*



925 stamp which certifies the silver quality.

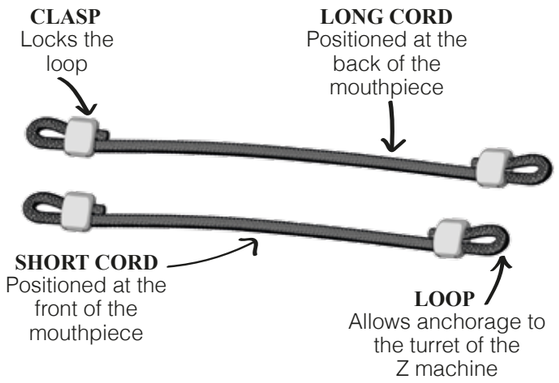
Z M21

ALTO SAXOPHONE
TENOR SAXOPHONE
BARITONE SAXOPHONE
BASS SAXOPHONE
CONTRABASS SAXOPHONE
Bb CLARINET
Eb CONTRABASS CLARINET
BASS CLARINET
CONTRABASS CLARINET

Z M16

SOPRANINO SAXOPHONE
SOPRANO SAXOPHONE
Ab PICCOLO CLARINET
Eb PICCOLO CLARINET

2 Z CORDS

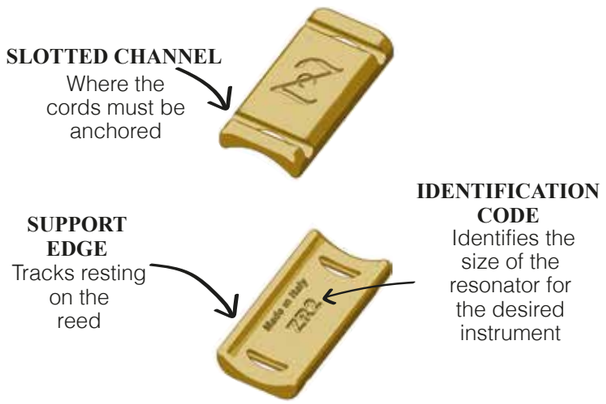


BRASS CLASP

925 SILVER CLASP

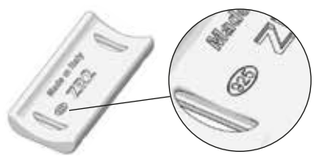
The cords are static and made of highly resistant technical materials.

3 Z RESONATOR



METALS and FINISHES

Brass	*925 Silver*

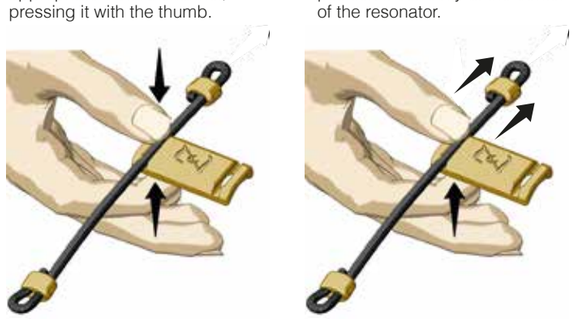


925 stamp which certifies the silver quality.

Other finishes can be made on request.

FITTING OF THE CORDS INTO THE RESONATOR

1. Insert the cord into the appropriate slotted channel, pressing it with the thumb.
2. Slide the inserted cord to fit it and position it correctly at the center of the resonator.



EBONY RESONATOR

The ebony resonator is only provided with the cords incorporated and this resonator can not be released from the cords.

RESONATOR SIZES

ZR1 - Soprano saxophone

ZR2.1 - Bb clarinet

ZR1.1 - Eb piccolo clarinet

ZR3 - Tenor saxophone
- Eb contrabass clarinet

ZR1.2 - Ab piccolo clarinet
Sopranino saxophone

ZR2 - Alto saxophone

ZR4 - Baritone saxophone
- Bass saxophone
- Contrabass saxophone
- Bass clarinet
- Contrabass clarinet

All sizes are also available for ebony resonators including cords.

4 CORD ANCHORAGE

ANCHORAGE

There are two cords with two different lengths: the shorter cord must be anchored on the front where Z is engraved, see description on page 1 and reference on the side *(ref.A L1)*.

Insert the cord into the turret *(ref.B)*.

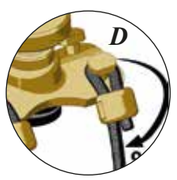
Rotate the cord 90° *(ref.C)*.

CORD ORIENTATION

The cords can be oriented towards the outside of the Z Machine *(ref.E)*, or towards the inside *(ref.D)*. Different combinations are possible:

- both the cords oriented towards the outside,
- both the cords oriented towards the inside,
- a cord oriented towards the inside and one towards the outside.

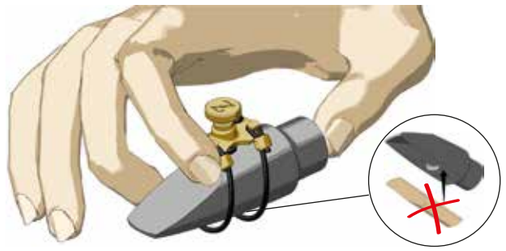
Depending on the orientation chosen, the cords can be moved along the reed *("cord position" on page 12)* so that the type of resonance can be varied.



5 FIRST USE

When ligature is used for the first time, it is very important to first perform this simple procedure to allow the cords to settle as much as necessary for optimal use.

1. Insert the ligature into the mouthpiece without coupling the reed.



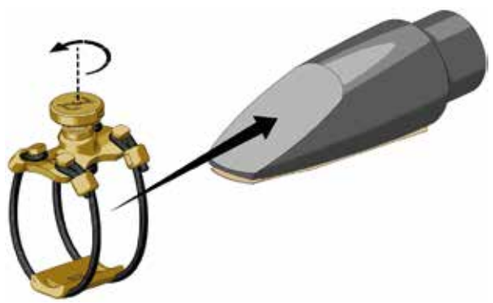
2. Tighten the screw to allow the cords to settle at the best.

3. Finally disassemble the ligature and reassemble it as desired, complete with reed *("Ligature assembly" pages 9-10).*

6 LIGATURE ASSEMBLY

1. Couple the reed to the mouthpiece.

2. Insert the ligature into the mouthpiece.



3. Slide the ligature on the mouthpiece by pushing with your fingers until the rubber is positioned on the back of the mouthpiece and the cords or the resonator are positioned in the middle of the reed.

4. Finally tighten the screw to adjust the tension of the cords.

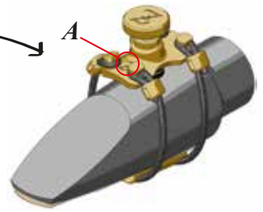
7 ASSEMBLY EXAMPLES

The ligature can also be mounted in less conventional positions, to achieve different sound results.

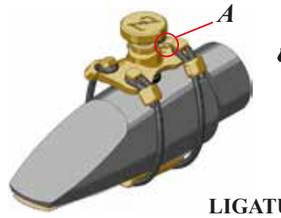
STANDARD LIGATURE ASSEMBLY

The Z is positioned towards the front of the mouthpiece.

See description on page 1 and reference on the side *(ref.A).*



LIGATURE ASSEMBLIED ON THE BACK



The Z is positioned towards the back of the mouthpiece *(ref.A).*

For this assembly, the short cord and the long cord must be inverted.

LIGATURE THAT RESTS ON THE REED

Never insert the ligature if it is rotated 180° and inserted with the mother element that rests on the reed.

8 CORD POSITIONS

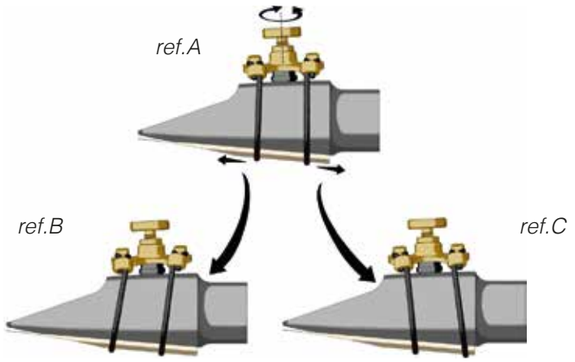
Once the Ligature is inserted (see pages 9-10) the cords can be moved along the reed in different positions.

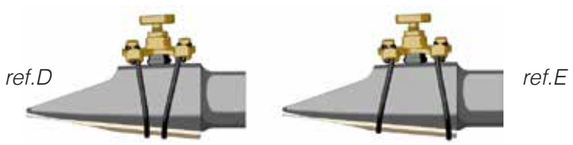
The front cord affects the hardness of the reed, so if it is positioned at the front, the reed becomes harder, as the vibration angle of the reed itself decreases. If the front cord is positioned towards the center of the reed or towards the back cord, the reed tends to become softer, as it increases the vibration angle.

The back cord affects the resonance of the reed, so it can be positioned according to the needs of the musician.

Some examples of how the cords can be placed are shown below:

- cords in standard position *(ref.A)*,
- both cords forward *(ref.B)*,
- both cords backward *(ref.C)*,
- both cords towards the inside *(ref.D)*,
- both cords towards the outside *(ref.E)*.



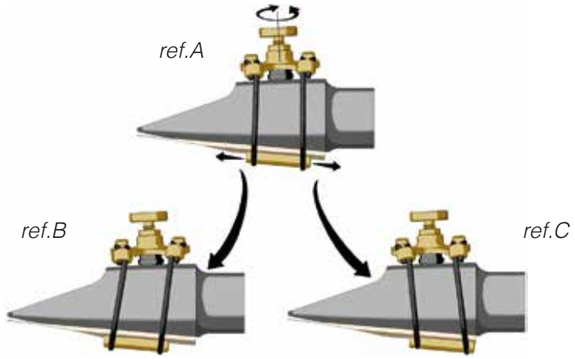


CORD POSITIONS WITH RESONATOR

Ligature complete with resonator.

Also in this case the cords+resonator can be moved along the reed, in different positions:

- cords and resonator in standard position *(ref.A)*,
- cords and resonator forward *(ref.B)*,
- cords and resonator backward *(ref.C)*.



INSERTION OF MORE RESONATORS

It is possible to insert more than one resonator into the cords in order to obtain different types of sounds and vibrations.

- 3 resonators *(ref.A)*,
- 5 resonators *(ref.B)*.

ref.A

It is also possible to order these solutions with 3 or 5 resonators in the ebony version.

ref.B

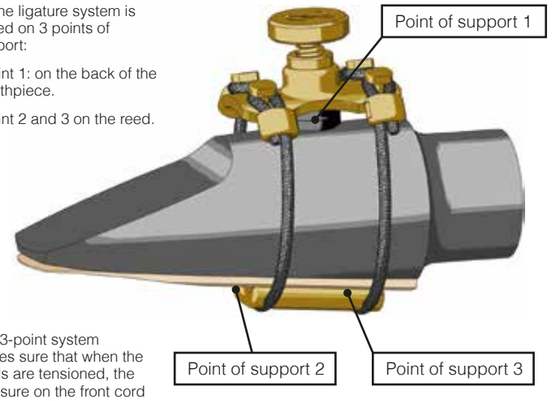
Be careful that the resonators to be inserted in addition to the main one have a specific dimension, therefore they must be ordered specifically.

9 LIGATURE ADVANTAGES

1) The ligature system is based on 3 points of support:

- Point 1: on the back of the mouthpiece.

- Point 2 and 3 on the reed.



The 3-point system makes sure that when the cords are tensioned, the pressure on the front cord is equal to the pressure on the back cord, so that the pressure on the reed is distributed evenly. In this way the reed is in the best condition to vibrate freely.

This principle is valid both for ligature mounted with only the cords and with the resonators.

2) The Z-machine element can be used on all clarinets and soxophones, since it is possible to replace the z-cords with cords with different sizes. Consequently the ligature adapts to each mouthpiece of any single-reed woodwind instrument.

3) It is possible to vary the ligature setting obtaining different resonances of the reed with the 3 main solutions:

- Only cords (very free sound).

- Metal, brass or 925 silver resonator (full-bodied and projected sound).

- Ebony resonator (warm and balanced sound).

With these 3 solutions, by varying the ligature setting, it is possible to increase the duration of the reeds and the number itself of the reeds used.