

MMF

MECHANICAL TENSIONER MMF WITH DISPLAY



OPERATING MANUAL

MECHANICAL TENSIONER

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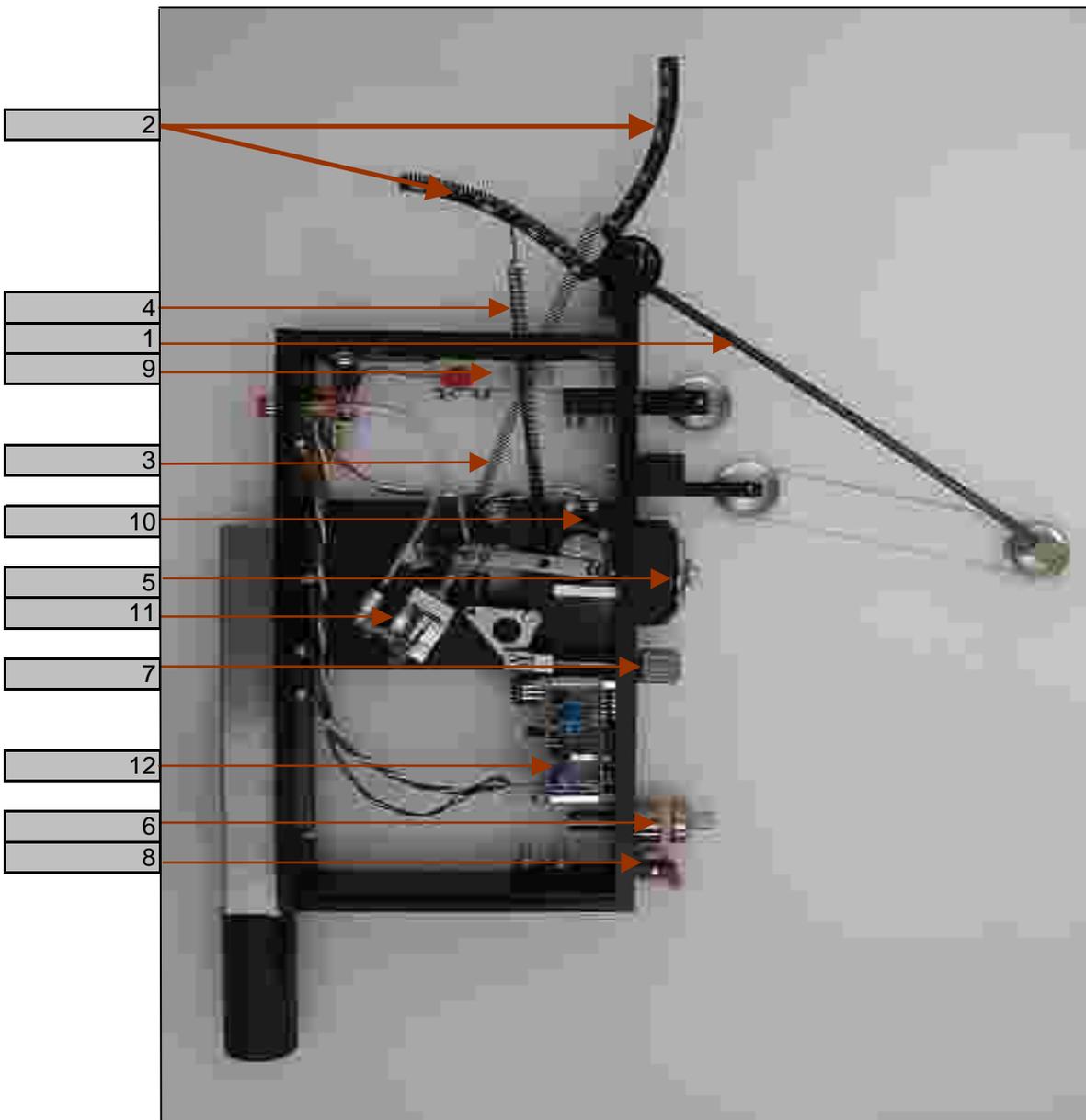
MECHANICAL TENSIONER MMF

GENERAL FEATURES

Tensioner components

The main components of a MMF 1-2 tensioner are :

- 1 - Dynamometric arm
- 2 - Graduated scale
- 3 - Spring recovery tension
- 4 - Spring winding tension
- 5 - Brake pulley
- 6 - Wire-press felts
- 7 - Braking adjustment knob
- 8 - Wire-outlet eyelet
- 9 - Mesuring system
- 10 - Micro switch : wire break
- 11 - Realase wire
- 12 - Control tension display



USE OF MMF TENSIONER

Tensioner fixing

There are 3 possibilities of fixing the reel.

- 1- A tube on the reel and one the machine inserted one in the other. (Assembly and dissembling in a few seconds.)
- 2 - Two tapped holes M8 opposite back the reel.
- 3 - A round fixed in the perhaps tight tube on a support.

Wire reel positioning

The reel has to be fitted in such a way to allow an easy unwinding of the wire.

The wire must enter the tensioner wire-outlet eyelet without vibration or flapping.

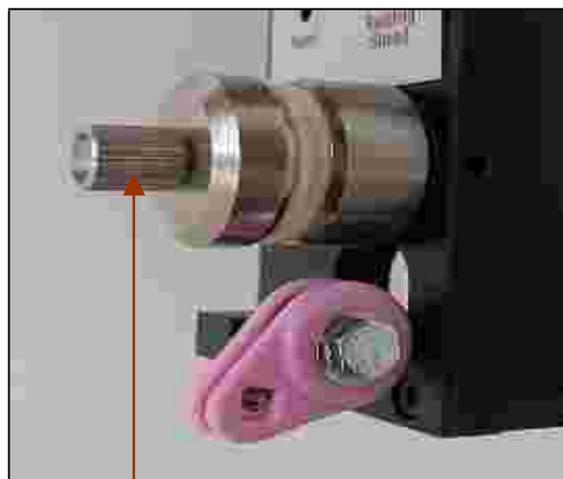
This is important for the thin wires (0,04 - 0,06 mm diam.) so that the wire tension is not altered before entering the tensioner.



Felts adjustment

To adjust the wire-pressing felt correctly:

- During the winding, to pull the felts adjustment knob (A). The dynamometric arm must rise lightly.
- Loosen or tighten the felts adjustment knob (A) in order to obtain this performance.



A

Wire positioning

Positioner the wire as on the photograph.

To make 1 passage of wire around the brake.

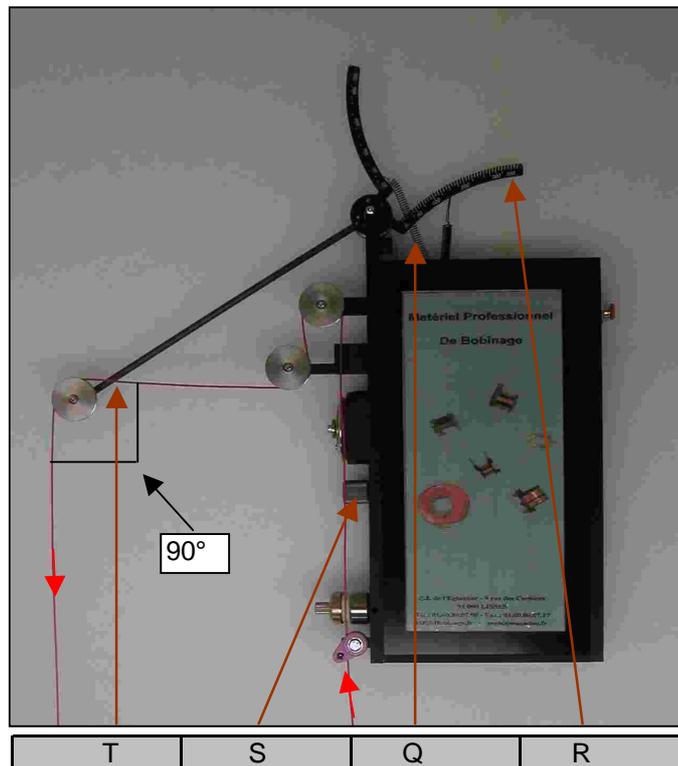
Tensioner adjustment

To adjust the tensioner correctly, operate as follows :

Place the springs (Q) on the graduated scale (R) in the position corresponding to the required tension (see the enclosed allowable tension table)

Pull the wire by hand and, at the same time, adjust the braking knob (S) " the wire must make 90°)."

Start the winding machine and check the real tension, by means of a tensiometer.



There is always a difference between static and dynamic position (because friction and wire bending stress) with reference to the working speed.

Adjust the knob (S) during the winding, to correct the position of the arm (T) : "the wire must make 90°)."

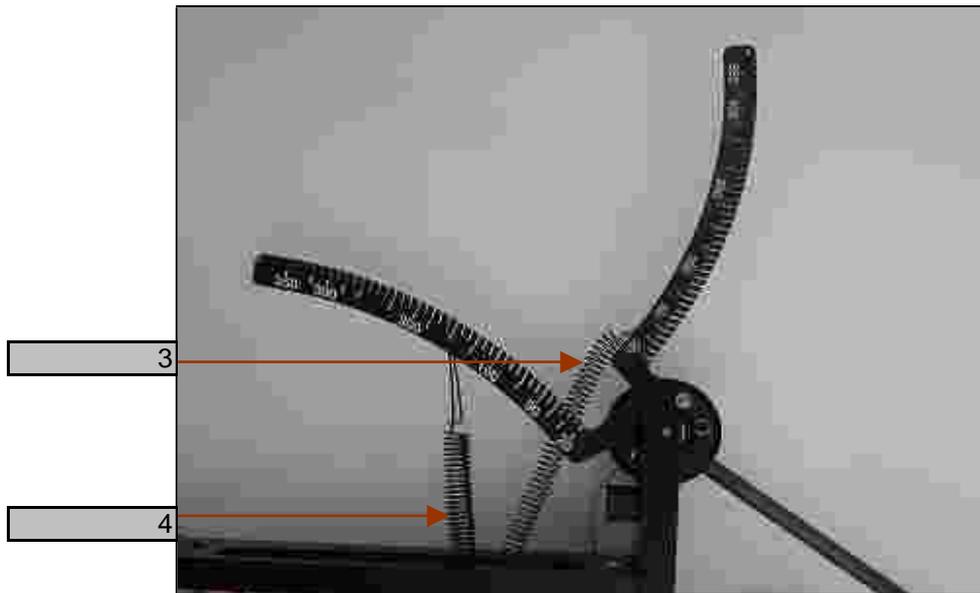
The wire must stay stretched also at the winding end.

MMF 1 - 2 (special for thin wire)

The MMF 1-2 tensioner for thin wire is equipped with 2 springs.

It allows to set the winding tension and, if necessary, an additional wire recovery tension.

The tension range of the light MMF 1-2 is 10 - 150 gr .



- By the stronger spring (4), it is possible to set a 10 et 150 gr. Winding tension. When the pulley of end of arm (c) is with the horizontal line of the pulley of returns (D). The value on the graduated scale of the spring (4) must be reduced to a half.

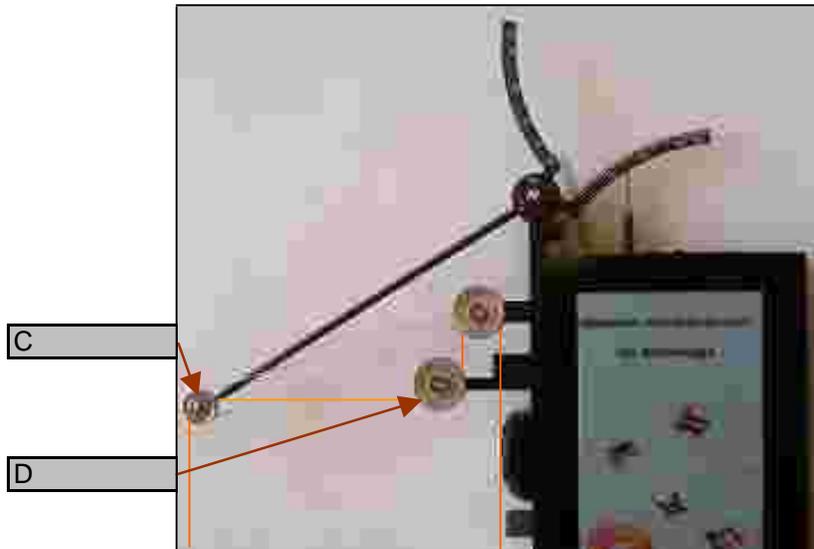
For instance, to set a 100 gr. tension, it is necessary to position the spring on the value 200

- The weaker spring (3) allows to set one additional tension, used only in the wire recovery phase, (When C goes up with the top of D). To obtain this effect, the stronger spring (4) must be backward more than the other spring (3). The additional tension range is 5 - 80 gr. The value on the graduated scale of the spring (3) must be reduced to a quarter.

For instance, to set a 25 gr. Tension, it is necessary to position the spring (3) on the value 100 gr.

- By adding the tension of the two springs, it is possible to set 25 - 200 gr.winding tension. To obtain this effect, the weaker spring (3) must be backard more than the other spring (4); When the arm (C) is with the lower part of the pulley of returns (D), the tension of wire is obtained.

In the example, a tension of 100 gr. has been set.The stronger spring (4) is on the value 100 gr., corresponding to 50 gr ($100/2=50$), and the other spring (3) is on the value, corresponding to other 50 gr. ($200/4=50$)



- By the weaker spring (3) it is possible to set a 5 and 80 gr. winding tension. When the pulley of end arm is under the pulley of returns.

For instance, to obtain a 25 gr.tension, it is necessary to position the spring (3) on the value .

PROBLEMS AND WORKING TESTS

- Correct working

The dynamometric arm movement gives a clear indication of the eventual defects. When the tensioner works correctly, the arm stays firmly in the working position (with round coils) or vibrates slightly (with square or rectangular coils). At the winding start, it goes down without striking the lower stop and, at the winding end, the wire stays under tension.

- Arm continuous vibration

When the arm is stable, you have to create a little shock, by a finger, on the dynamometric arm. The impulse must cause 2-4 vibrations, after which the arm becomes stable again. If the vibrations continue, it will be necessary to remove the brake pulley and to replace it with a new one.

- Arm flapping

- If the arm flaps without control and, at the same time, the brake pulley rotates irregularly, it means that the wire slides on the O-rings of the pulley. It is necessary to adjust the pressure of the wire-pressing felts, tightening the adjusting knob, and to check the wear of the felts. In some cases, the wire (which is lubricated) deposits the lubricant (paraffin) on the O-ring, causing the sliding of the wire on the brake. Clean the O-ring sprinkling the pulley with the spray Lexite Cheamsearch, when rotaring. If you often turn the wire-presser felts, less paraffin will remain on the O-rings

- Arm quick falling

- The quick falling of the dynamometric arm, with or without wire-break, means an incorrect releasing of the wire from the reel, due to:

Damaged or rough reel edge;
Wire overlapping;
Scratched or damaged wire-guide tube;
Incorrect or obstructed wire path;
Cut or worn cleaning felts over the reel;

MAINTENANCE

The MMF tensioner periodically requires some maintenance. Make reference to the chapter regarding the description of the MMF (see " General features "), to identify the details quoted here. Check periodically:

Wire passing eyelet.

They must always be in good state, not lined, nor ruined on the surface. If a defect is found they must be replaced.

Wire pressing felts

Must be kept in good state, they must be clean and not too worn. It's necessary to.

- Clean the felts with a hard brush and rotate so that the wire does not mark them in the same position.
- Change felts when they are worn.

Brake pulley

It must always be kept clean.

- From time to time check the brake O-ring gaskets.
- Every day, before starting to work, clean the brake O-ring gaskets so to remove the possible paraffine wastes. (With the spray LEXITE Chemsearch Ref : 70002186)

Snub pulleys

They must be free to turn without friction.

- Check if they turn freely and without noise.
- Pulleys must be replaced as soon as a small defect is found.

Mesuring System

The measuring system is somewhat delicate, therefore it must not receive knocks or blows of any kind.

BRAKING UNIT REPLACEMENT

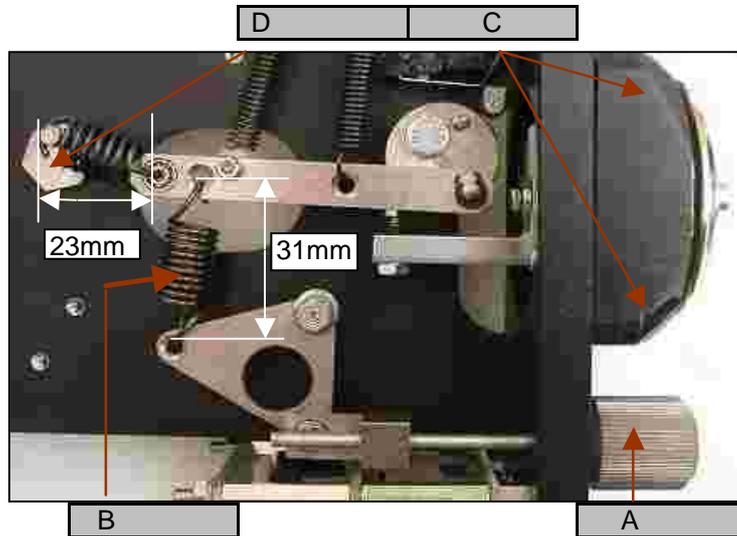
To replace the braking unit, operate as follows:

- Loosen the screws of the cover and remove it.

- Loosen or tighten the braking adjusting knob (A) until the spring (B) is 31mm long (in this condition there is a weak braking).

- To tighten the eccentric screw (D) so that the length of the spring is of 23mm

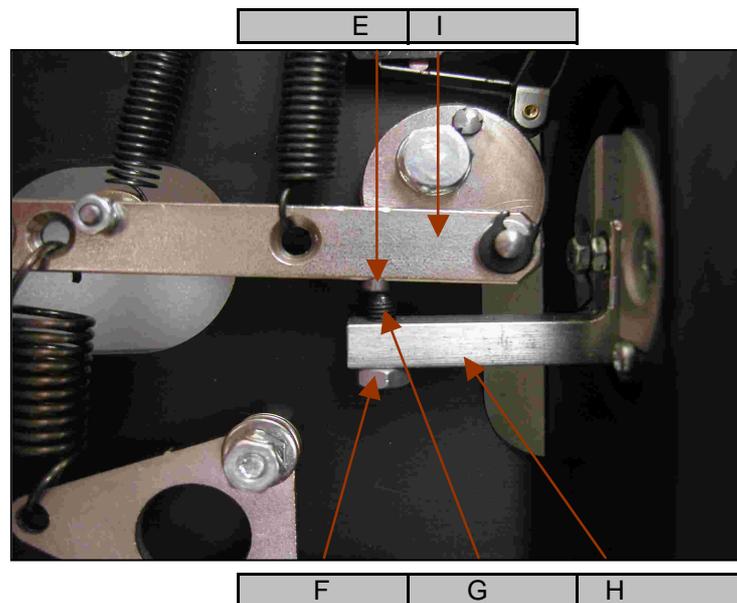
- Remove the fixing screws (c) unthread the whole braking unite and replace it with a new one.



- Act on the screw (G) of the bracket (H) until the grub-screw (E) of the lever (I).

- Tighten the adjuster nut (F) to lock the screw (G)

- Clean and lubricate the point of the screw (G) and the surface of the grub-screw. (E).



SPECIAL MAINTENANCE

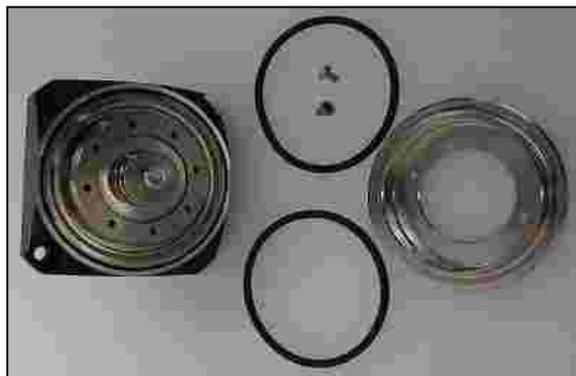
Brake O-rings replacement

Check daily the O-ring condition; if they are worn, they need to be replaced;

- Unscrew the two screws joining the pulley to the brake;
- Remove the worn O-ring;
- Clean the pulley slot with a cotton wad with alcohol;
- Replace the worn O-ring with one of the same type (ref : 70003006);
- Insert the O-ring directly on the pulley so that the rings does not twist on themselves;
- Screw the two screws joining the pulley and the brake again;

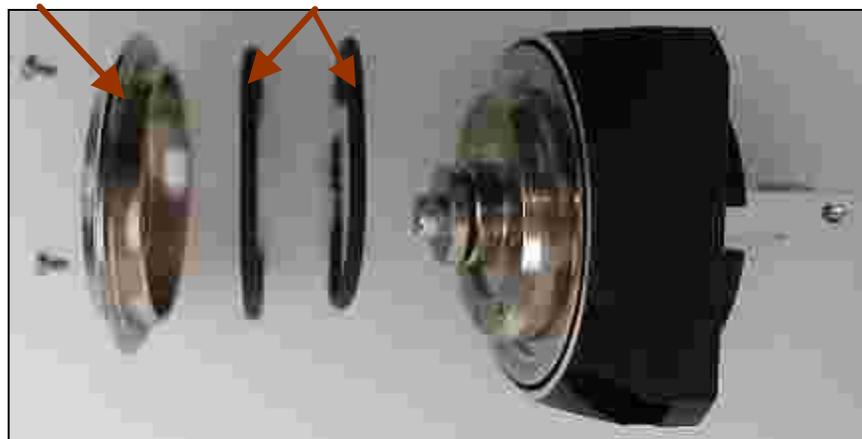


Screws M2x3



Brake Pulley

O-ring



CALIBRATION OF THE READING OF TENSION

- The tension of reading has 2 buttons.

Calibration button : A left. (A)

Button of regulation speed of reading of tension : A right. (B)

To take a mass standard of 50 and 500 gr. (C)

To make 1 passage of complete wire (mass 500 gr. at the end of the wire).
To press the left button - 0500 - appears.
To withdraw the mass - 0000 - appears.
To reposition a mass of 50 gr. The same way as the mass of 500 gr.
- 0050 - appears.
To withdraw the mass - 0000 - appears.
The taring is finished.

The button of right-hand side makes it possible to vary the reading rate of tension of the wire.

To turn the button to vary speed.

