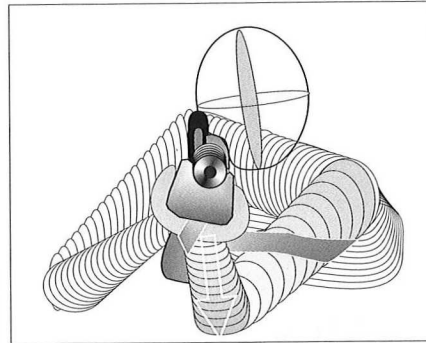
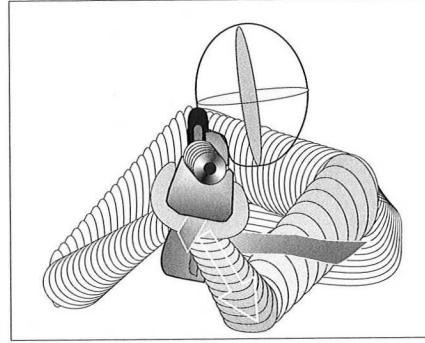


The left elbow can be placed directly under the rifle. This usually causes a tendency for the rifle to fall towards the face, because the pull of the sling works in this direction if the right hand and head are lifted off.

A slight offset of the left elbow to the left



of the line of the rifle is therefore recommended. The rifle now recoils vertically and after the right hand is taken off it stays pointing at the target. Here it's a matter of millimetres, the elbow can be moved using the right hand.



If the rifle is lying too far inside the elbow, it will recoil high and to the right. This problem is often encountered because the arm drops during a series and in so doing, pushes the position to the right (from the shooter's viewpoint).



Fastening the sling keeper transfers the pull of the sling to the shooting jacket. The stretch marks around the shoulder are signs of the way the force is working on the material.

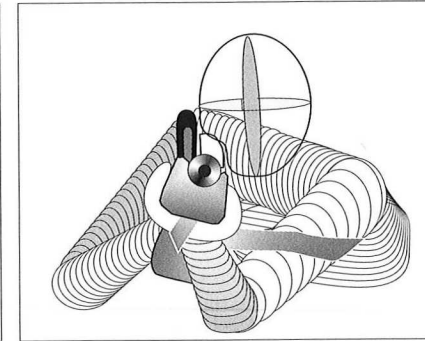
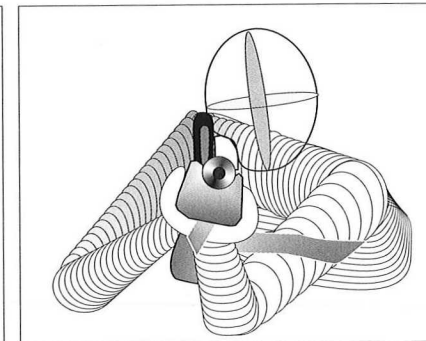
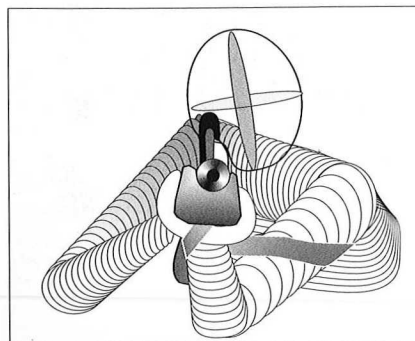
Here, the forearm, stock, barrel and buttplate are almost in a vertical line. The head has to be bent over to get to the sight line.

This delivers a clean recoil, the shooter finds it easier to analyse and organise his impressions and sensations.

Slight canting of the rifle and sideways offset of the buttplate permit a more natural head position.

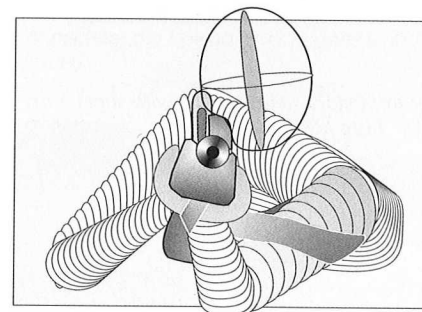
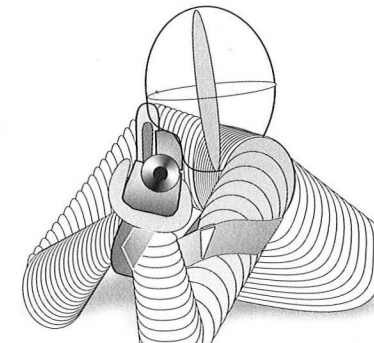
But it will be harder to handle the recoil of the rifle. Variable pressure in the shoulder or in the trigger hand will now make bigger differences to the recoil direction.

Were cant and offset of the buttplate to be further increased, such tension changes would immediately lead to variations in the point of impact. Positions like this can be mastered in training, but under the pressure of competition they easily lead to a loss of control.

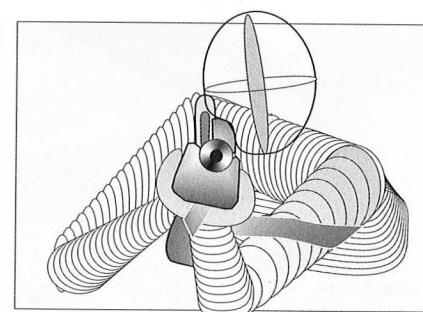


Gaby reaches a long way forward, her shoulders end up almost parallel to the line of fire. The sling is fastened high on the upper arm. The head is almost squashed between the shoulder and the stock.

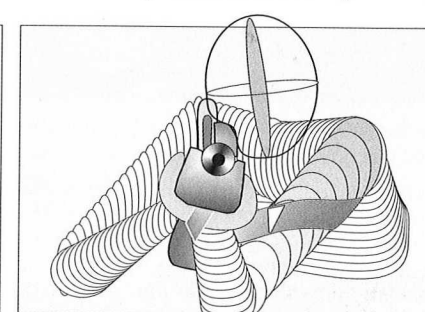
The tensions are high in this position. The recoil is good in relation to the small body mass. The position appears extremely uncomfortable (though physical flexibility helps). Thank God it only has to last for twenty shots...



The left upper arm is dropped to allow the hand to reach further forward. The limit is reached when it becomes hard to keep the sling in place. During the course of a series the sling will anyway need to be readjusted.



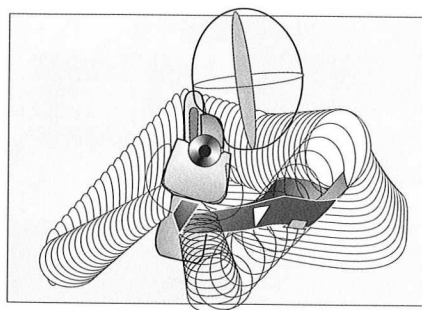
Here the left shoulder is not so very low, but anyway it is still clearly below the right. A sensible compromise, that allows a workable set-up for the sling.



When the upper body is this high, the upper arm angle is ideal for fixing the sling. However, this means major pressure for the left elbow. Only tolerable for the hard men.

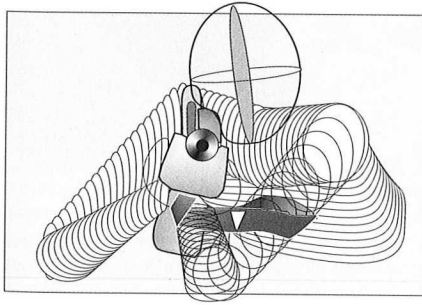
The picture on the right offers a 3-D impression of how the shoulders, arms and head 'clamp' the rifle in position. One can compare it with a vice; the tighter the stock can be fastened, the more securely the recoil movement can be controlled.

But please, without strength. Tightness is only built out of weight, levers, and bindings. By the way, the right (and left) foot can be used to regulate the zero point. Move it and see how the muzzle reacts...



The higher the sling can be fixed on the upper arm, the better it works for carrying the weight of the rifle.

Slings fastened high on the arm don't drag so much. A secure sling keeper is necessary in all cases: but anyway the sling must be constantly checked and repositioned during the competition.



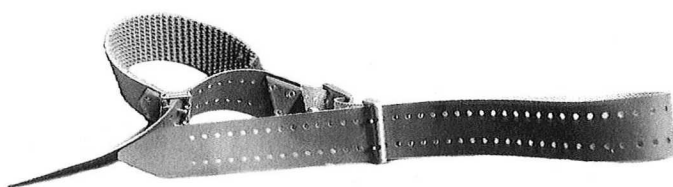
If the sling is worn right down near the elbow, there's no more drag. The folds of the jacket hold it in position.

This option causes high pressure, because the sling must be very short.

But with badly-fitting jackets, poor sling keepers and/or stretchy slings, it's practically inevitable.







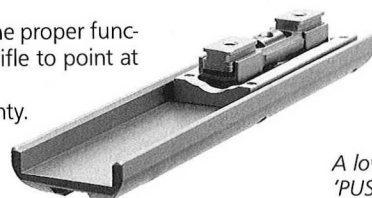
Slings are the causes of a lot of difficulties in prone and kneeling:

- They can stretch during the course of a series because the leather has softened over time. The muzzle drops a fraction after every shot, you are constantly having to make sight adjustments.
- Soft leather and poorly constructed mountings may permit the rifle to bounce off the sling as the shot breaks.
- Wrongly placed buckles and attachments exert pressure on the wrist and touch the stock.
- Poor fastenings on the upper arm and the jacket permit the sling to drag down.
- If the shooter doesn't know, or know how to use, the proper function of the sling, force will be necessary to get the rifle to point at the target.
- These problems lead in general to pain and uncertainty.

To get a grip on this mess you first need to have a sensible sling. It must then be adjusted to suit your anatomy and optimally fastened. Many experiments will be necessary before you find satisfactory solutions.

On this page we have pulled together the basic rules for using the sling. Though you must be clear that the combination of position, jacket and sling type affords extremely individual solutions. So you'll only reach your imagined ideal by way of a lot of systematic experimentation. You should only allow yourself to feel satisfied when:

- Nothing drags any more.
- Nothing causes heavy pressure or pain.
- No visible pulse is seen down the sights when in position.
- The rifle drops back exactly onto aim after the shot.
- The muzzle jump is vertical.
- The position stays constant for 60 shots.



A lower front-stock helps people with short arms. 'PUSH-UP' from MEC.



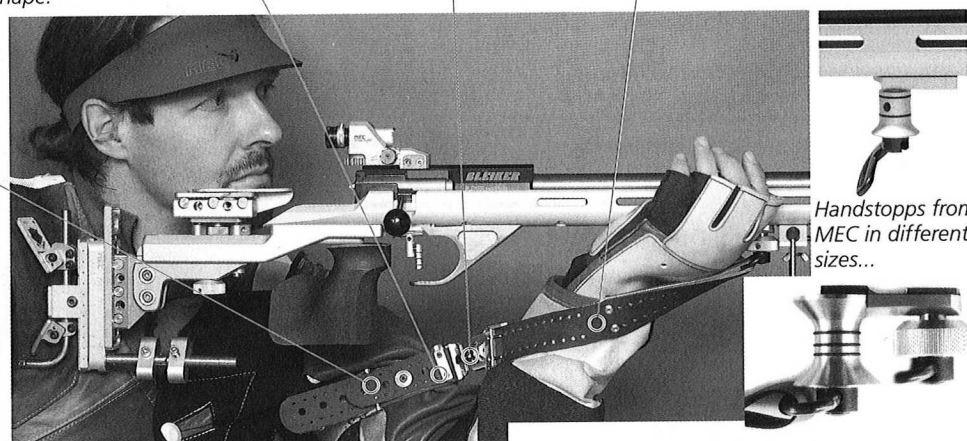
This buckle regulates the tightness of the sling on the upper arm. It also allows the sling to be fixed to pull more from the inside or from the outside of the arm, and so to reduce constriction of the brachial artery. This helps to eliminate pulse effects in the position.

The relatively good functionality of the sling in this picture does mean that the upper arm loop can be too tightly set, causing unnecessary constriction of the upper arm. This in turn magnifies the pulse beats in the same way as a blood pressure measurement device would do. Also, be careful not to put too much strain on the buckle.

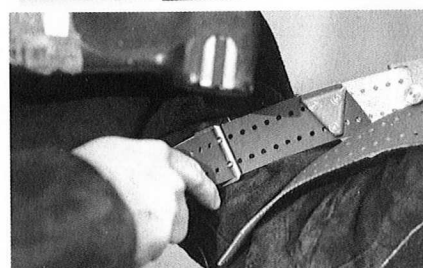
The triangle joins the upper arm loop to the front loop of the sling. It permits a square junction with the angled upper arm and so reduces creasing of the sling itself. The fastening point of the triangle establishes a permanent dimension for the circumference of the upper arm loop according to your body shape.

The fine adjustment can be freely altered, so you can manage it comfortably when in position. If you don't want to use fine corrections or if there isn't enough space between sling and jacket, then the adjuster is easily removed.

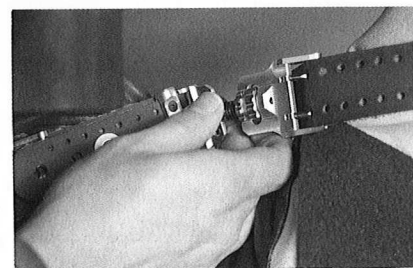
The buckle on the front loop should be located so as to make it easy to reach when in position and so that it doesn't place any pressure on the wristbones. This avoids pain over long courses of fire. On top of which, the metal parts aren't allowed to touch the stock; this is one of the rules of the sport.



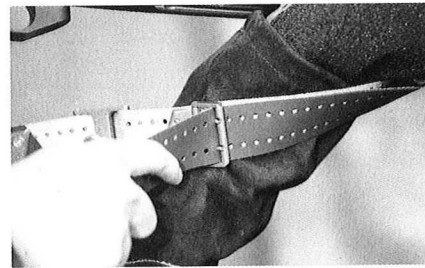
Handstops from MEC in different sizes...



It is important to set up the sling the same way every time you get into position. Changes create a different distribution of balancing forces. A mark on the jacket (seam!) Helps to find the spot.



The fine adjustment allows for millimetric height corrections. It can be employed when in position. As all positions generally lose some height, you need to start with the adjusting screw all the way out.

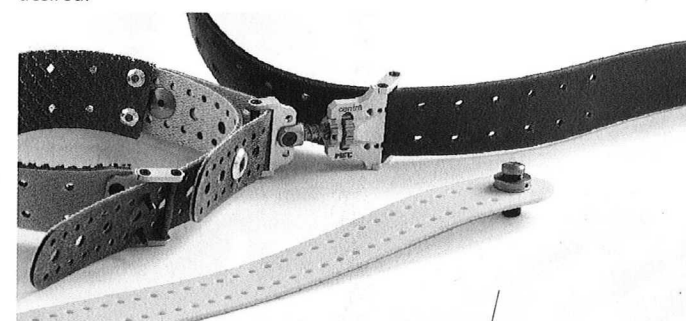


Adjusting the length of the front loop regulates the pull of the sling. If you want to get your muzzle to point higher, you should shorten your sling and bring the handstop further back.



The sling keeper fixes the height of the sling location on the upper arm and the position of the loop. Both factors have a considerable influence on the stability of the position in the course of a series. A high location is good, because it provides stability. The organisation of the pull to the outside of the arm avoids pulse beat being transferred along the sling.

In this sling, a triangle fastener for the upper arm loop allows a perfect connection, the fine adjuster permits length adjustments in small steps as desired.

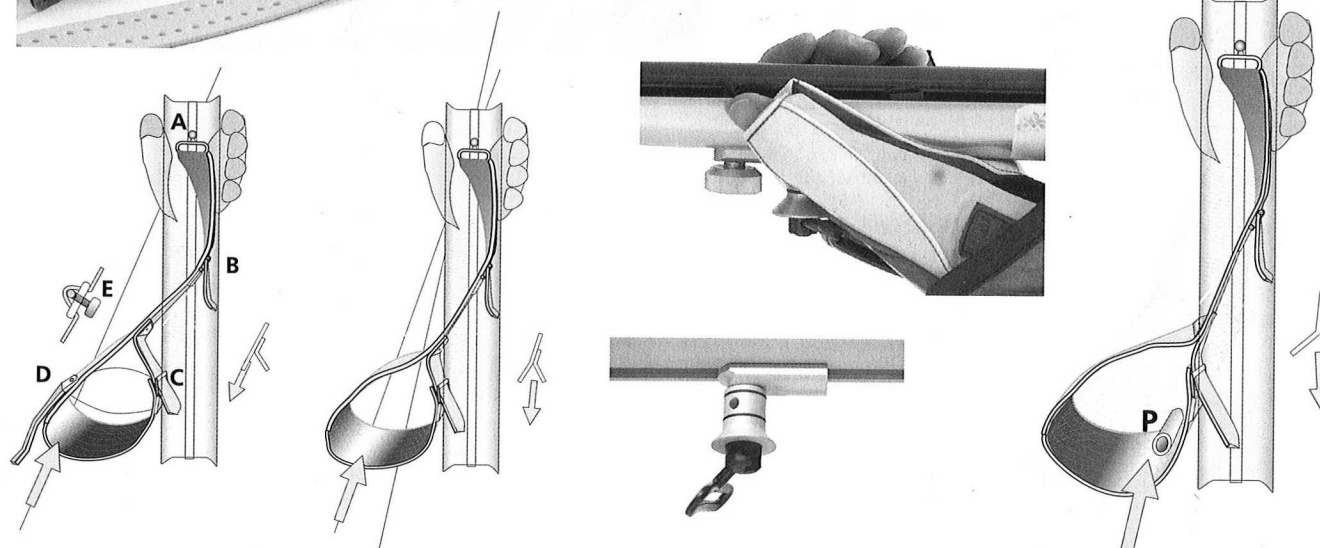


A fine adjustment system in close-up: by turning the screw in, it shortens the sling in any desired fine steps. This lifts the muzzle and on the target, it leads to raising the point of aim with millimetric precision.

This perspective also shows a perfect set-up of the upper arm loop. The triangle exactly fits the upper arm angle and prevents slippage in the course of a series.



MEC/centra SLING. Fine-adjustment and 'turn'. Only one way string from the 'processor' to the stopp. This string can be taken in two materials, fibre and leather. Some shooters believe in softer behavior of leather, others trust in the stability of plastics. A new connection from the sling to the stopp makes it easy to handle it.



The left arm from above; stock and hand are 'transparent'. The sling shows itself to be a complicated tool, which permits all manner of tricks. Possible adjustments are:

- A - the contact point between hand and rifle
- B - the length of the forward loop
- C - the length of the upper arm loop
- D - the set-up on the upper arm
- E - fine adjustment of the length

Handy use of these variations is more important in prone shooting than changes to the body position. The fine configuration of pulling force between upper arm and the palm of the hand is the means by which the rifle is brought to rest and aligned with the centre.

The upper arm loop is fixed to the jacket with the sling keeper (D) and its diameter is established with the buckle (C). The tighter it is closed, the less it can drag downwards or around the arm. The loop is too tight if the pulse becomes noticeable.

The length of the sling is determined by the forward buckle (B). If it is shortened, the barrel becomes higher. Fine corrections during shooting can be comfortably managed using the fine adjuster (E).

The position of the handstop (A) establishes the contact point for the hand on the stock.

The three diagrams show sling set-ups in which the mechanics work differently. On the

left, the tension pulls from outside, on the right it pulls from inside the arm.

Where the brachial artery pulses (P), pressure at this point often creates beats which are transferred to the barrel.

If this happens, the best solutions are to either move the upper arm loop down towards the elbow, or to change the set-up to pull from the outside as shown in the left-hand picture. But to achieve consistent pull from the outside the prerequisites are a good, well-fitting jacket and an effective fastening mechanism.

A glance at the Y of the upper arm loop when you are in position, shows at any time how the pull of the sling is working.