



Canting is relatively problematic for smallbore shooters because the ten-ring is relatively small. Even small deviations to the right or left are enough to miss the inner circle.

Traditionally, the rules of the sport have allowed the smallbore shooter sensible aids which allow the angle of the rifle to be monitored. As well as the bars in the foresight tunnel, a spirit level may be used. 'Horizon bars' which extend outwards from the foresight tunnel to indicate the horizontal, may also be employed.

The question as to what is the *ideal* means of monitoring cant depends on two factors: the prevailing light conditions and the abilities of the shooter. On bright, well-lit ranges you can freely choose whether to use either an internal or external spirit level or horizon bars. The recommendation is to use the most precise method or the method which best suits you.

On dull ranges, though, there is more or less no choice. The shooter needs to adopt the method which is easiest to perceive.



Horizon bars or an illuminated spirit level are probably the best bets.

Anyone just beginning with smallbore shooting, or who (for example in the standing position) doesn't really think about how much or how little they are canting, should get used to using the bars on or in the foresight tunnel. These permit adequate estimation, without placing too much strain on the perceptions.

In the prone position, and among the top shooters, it is a very different story. Here every tenth counts, and what's more, in these cases there is enough time and steadiness for the angle to be precisely determined.

The key aspect of all the sighting elements on the muzzle is a high-quality foresight tunnel. In it, the foresight element and cant control will be mounted, maybe also filters and an eagle-eye. It will be mounted on the barrel or the sight-raiser anew before every shoot, as the tunnel has to be safely packed away before transporting the rifle.

Only when the fixing, rotation and adjustment of the tunnel can be guaranteed by the high quality of the mechanism, can you be sure that this procedure will always function smoothly. Experienced shooters use different coloured tunnels for each position, to eliminate the possibility of any mistakes during the change-over between positions. **Centra** offers you a choice of four colours.



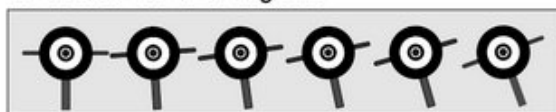
WCH Zagreb 2006, men's 3-Positions match, 8am. 40 competition shots must be fired in the next 45 minutes. The wind is blowing hard through the open valley, rain and sun alternate at short intervals.

These are extreme conditions for the world's best shooters. To get on top of the changes in wind and light, the sights must quickly be adjusted to give the optimal set-up. Above all, the factor which determines success or failure will be the attentive observation of the wind-flags. Wait, when the gusts get too strong or change their direction; put the foot down, when it is blowing steadily from one side. At the same time, the contrast in the sight-picture will be constantly changing. The choice of iris and filter has to be quickly adapted.

In such situations, it is easy to overlook the degree of cant. Checking the angle is just one of many jobs which the eyes have to master in the coming three-quarters of an hour. After which, a quick changeover to the standing position is next on the agenda.



In order to learn how to cope responsibly with the issue of cant variation, the first thing is to familiarise yourself with the consequences of this aiming error. This is easiest to do in training, when you are fully concentrated and able to experiment for as long as you want. The simplest piece of research you can conduct is simply to steadily increase the amount of 'tilt' with which the gun is held. Begin with an almost imperceptible tilt and increase it over a ten shot series to around 20 degrees.



During the exercise, keep a check on the displacement of the impact points from shot to shot. This effect is not necessarily noticeable from each shot, but will certainly be seen in the overall shot group. The hits on the target will gradually be displaced in the direction in which you rotate your rifle, the more you tilt, the further the displacement.

The effects of cant differ depending on the discipline. You should therefore conduct this experiment for air rifle, for smallbore rifle 50 and 100 metres, and for crossbow, which is especially sensitive to any change in angle because the flight-path of the bolt follows a greater curve than those of the two types of rifle projectile.

