



# CZ Sniper RIFLES

The times when a sniper shooter could do with a common military or hunting rifle equipped with an aiming scope passed a long time ago. Diversity of targets and situations which the present military and police snipers have to face is extremely wide; this fact turned out to be more obvious especially after the so called global war against terrorism had broken out where the sniper rifles belong to the key instruments of the infantry equipment. As a result of this trend, the demand for new sniper systems which would cover the whole spectrum of the present as well as future sniper roles within the military and security units has substantially increased. In reaction to this trend, Česká zbrojovka developed a new concept of the CZ 750 bolt-action sniper rifle.

Česká zbrojovka has been engaged in the sniper rifles development and production since the mid 1950s when the company manufactured the vz. 54 sniper rifles intended for the Czechoslovak Army, using some parts of the Soviet bolt-action rifles called Mosin (you will find more information about the vz. 54 on page 83). Afterwards, there was a long pause and the company returned to this project only in the 1990s under completely different political and economic conditions which resulted, among others, in the transition to the effective "Western" 7.62x51 NATO caliber (or .308 Winchester).

At the beginning, the new sniper rifles from Uherský Brod represented only a sort of by-product of the

modernization of the hunting and sporting bolt-action rifles portfolio – that is how the **CZ 537** and **CZ 550 sniper rifles** were developed. Both these rifles were reliable, accurate guns featuring the Mauser type bolt, however, they belonged rather to the former tradition of the sniper rifle craftsmanship.

## THE CZ 700

Developed in close cooperation with the Czech sniper shooters, the CZ 700 Sniper model can be considered as the first real sniper rifle from Uherský Brod (in fact, it was the first factory-made weapon of its kind in the Czech Republic); surprisingly, the designers from Česká zbrojovka deviated from the well-established Mauser



CZ 700 Sniper M1

bolt-action and employed the Weatherby bolt-action featuring three locking lugs in two banks (that is 6 lugs in total) located at the rear part of the bolt.

The reason why the Weatherby bolt-action was used had been related to the intention to introduce the new CZ 700 modular hunting rifle which would serve as the basic concept for various other long guns. First of all, the big bore rifle designated CZ 700 Sport designed for the ISSF disciplines was developed, featuring a stock designed by **Mr. Vítězslav Guryča**, the designer, in cooperation with Ing. Bohumír Pokorný from the Dukla sports club Plzeň.

Afterwards, the CZ 700 Sniper model, originally provided with a stock similar to the sports version rifle, was developed. Nevertheless, the durability of this stock proved to be insufficient for the intended purpose and unsuitable in more aspects. For this reason, the new stock of a different shape featuring a butt plate and cheekpiece adjustable in height was developed (by the way, Mr. Guryča gained the utility model for this solution). The specific shape of the stock was given, among other things, by the fact that the 10-round magazine was hidden. The basic model of the stock made from laminated wood was provided with a thumb hole located behind the pistol grip; however, a bit differently shaped stock made from black polymer was also developed featuring a large recess instead of the thumb hole. This solution offered excellent ergonomic features – the only disadvantage was that it could not be used by left-handed shooters.

Nevertheless, in the course of the development the left-handed version was designed featuring a mirror-inverted bolt-action configuration.

The CZ 700 – of course manufactured in caliber 7.62x51 NATO was a high quality weapon excelling in very competitive parameters and outstanding performance.

The sophisticated stock was provided with a rail for bipod attachment situated at the bottom of the forend. A very positive feedback was noted in regards of the crooked bolt handle with a massive polymer knob which in combination with the smooth bolt travel contributed to the very comfortable handling of the rifle.

The receiver top of the basic version was outfitted with a mounting rail according to MIL-STD-1913, however, some of the versions of the rifle featured the classical rails located on the receiver bridge for the purpose of mount rings attachment. The trigger mechanism of the CZ 700 was fully adjustable with the option to install the set-trigger.

The basic version of the CZ 700 Sniper M1 achieved an excellent accuracy of 0.5 MOA with the use of the top quality ammunition. Nevertheless, the CZ 700 was designed as a part of a weapon system distinguished, among other things, by a removable floating barrel which could be replaced within five minutes without the necessity to use any special tools. Besides the heavy, cold hammer forged barrel the weapon could be supplied with a fluted barrel or a barrel adjusted for subsonic ammunition and sound suppressor attachment. Together with the two types of stocks, the rifle offered a wide range of different combinations. Unfortunately, the whole project ended up with the production of the test series of the basic hunting version and a few pieces of the Sniper version. Nevertheless, the experience gained in the course of this project represented a valuable source of information for the upcoming development of a new line of sniper rifles by Česká zbrojovka.

### CZ 700 + CZ 550

A systematic development of a new bolt-action sniper rifle for military and police shooters was initiated in the



CZ 750 S1 M1



CZ 750 S1 M2

first half of 2003 in Uherský Brod. For this purpose, the designers of Česká zbrojovka merged the best qualities of the CZ 700 Sniper rifle, namely its sophisticated stock, with the excellent Mauser type CZ 550 hunting line. At first, the company introduced an improved version of the CZ 550 rifle, called the CZ 555, which, owing to an additional guiding rib, excelled in more accurate guiding, smoother bolt travel and shorter extractor. The successive version of the rifle, designated the **CZ 750 S M1**, was introduced to public already in 2003 within the IDET exhibition in Brno; at that time, the rifle was already renowned for the first successes gained in various sniper competitions. The new rifle had a very promising start, therefore, its further development was carried out in close cooperation with the national armed forces. Within the course of the development, Česká zbrojovka manufactured several prototypes whose ergonomics, accuracy, intuitive handling as well as low demands for maintenance were being tuned while the maximum reliability of all the rifle's functions had to be retained for the whole service life. Properties of each prototype were continuously verified in international sniper competitions.

The development of the new rifle was finished just in time to be presented within the IDET exhibition in May 2005. Nevertheless, it would be a bit misleading to speak of one rifle only. Česká zbrojovka had been preparing a whole sniper concept within which a comprehensive line of rifles intended for different purposes was being designed.

### WELL-PROVEN COMPONENTS

The bolt and the steel receiver of the final CZ 750 sniper rifle originate in the well-proven design of the CZ 550 hunting rifle which is considered by many people as the most perfect bolt-action rifle of the Mauser type ever manufactured. Therefore, the front part of the CZ 750 bolt is provided with two symmetrical locking lugs which engage matching recesses in the receiver. Handling the bolt, whose lift angle is 90°, is smooth and reliable. Curved slightly backwards and provided with a knob made from hardened rubber, the sophisticated bolt handle also contributes to easy handling. The popular long extractor ensures reliable cartridge case extraction.

The bolt was designed as standard that the cartridge case is ejected upon bolt opening. Being well aware of the user's requirements, Česká zbrojovka offers also a special version of the ejector which removes the cartridge case from the extractor and retains it in the firing chamber whereof it can be taken out manually (the point is that the sniper shooter does not leave cartridge cases

as a trace at the place where he was shooting). The trigger mechanism of the CZ 750 sniper rifles was designed as a compact unit enabling fine tuning of the trigger pull (14 – 18 N) and the trigger blade positioning. On request, the trigger mechanism is equipped with the single set trigger which is "set" by pushing the trigger blade forwards. Thus, the trigger pull is between 4 and 8 N and can be finely adjusted by means of the set trigger adjustment screw located in front of the trigger.

The CZ 750 sniper rifles are provided with an easily accessible and operated manual safety located at the right rear of the receiver. The basic version of the safety has two positions: in the rear, on-safe position, the safety not only blocks the firing pin but it also prevents the bolt manipulation. On customer's request the rifle can be supplied with a three-position safety which enables the shooter to manipulate the bolt while the trigger mechanism remains blocked. The bolt stop is positioned at the left rear of the receiver and by pressing it the bolt is released and can be removed out of the rifle.

### NO MECHANICAL SIGHTS

The CZ 750 family of sniper rifles does not feature mechanical sights since the receiver of all the models is provided with a MIL-STD-1913 rail which serves for mounting a scope or other aiming devices. You can hardly imagine a modern sniper rifle without a bipod; the CZ 750 is not an exception to this rule – the most commonly used bipod with the CZ 750 is the Harris bipod which is installed into the 220mm duralumin rail located at the forend bottom.

The standard CZ 750 sniper magazine is a double-column 10-round magazine with side-by-side feed. Its characteristic feature is that the magazine body is protected by a rubber cover which reduces the risk of damaging the magazine surface during rough handling, reduces ingress of dirt into the magazine well and undesired clangs caused by the contact of the magazine walls with the magazine well. The **CZ 750 S2 M1** sports model, which is not offered any more, was provided with a more subtle stock made from laminated wood and supplied with a shortened 4-round magazine; however, it was also possible to use the standard 10-round magazine with this rifle. Located at the front part of the trigger guard, the magazine catch is well accessible in all the CZ sniper models.

### THE BASIC MODEL

The CZ 750 S1 M1 model is the classical heavy sniper rifle designed for the very accurate shooting within a distance of 800 metres which provides for a convenient solution to all sniper missions, namely those

situated in open spaces. For this reason, the rifle is equipped with a barrel based on a thorough development during which different barrel lengths, twist rates and rifling number were tested. The optimum solution was found in the 660mm long floating barrel, i. e. a barrel which vibrates during the fire, featuring 4 right-hand grooves and a 10 inches twist rate.

The barrel's muzzle of the basic model is equipped with a single-chamber compensator which reduces the recoil to the convenient 5.4 J. As indicated by Česká zbrojovka, when the compensator is removed and replaced by the muzzle cap, the recoil increases to the acceptable 9.04 J. The manufacturer guarantees the minimum service life of the barrel, in other words of the rifle as such, to 5 000 shots without any substantial deterioration in accuracy.

The CZ 750 S1 M1 model features a sophisticated styling of the stock made from highly durable black polymer strengthened by fiberglass. Within the course of the development, the designers focused mainly on adjusting the stock's ergonomics to conform to the position in which the sniper shooter will be hidden for several hours while observing the combat zone and identifying the target. There were several designs in question; finally a version similar to the older CZ 700 Sniper model was chosen because its

rather long, 10-round magazine flushes with the stock. Among the characteristic features of the CZ 750 S1 M1 stock excels the accentuated pistol grip with the thumb hole for the shooting hand which can be used both by left and right-handed shooters. Thanks to this, the sniper rifle from Uherský Brod really fits into the shoulder, it is comfortable to hold and it can be easily handled without wrist and forearm fatigue.

As far as adjustable components of the rifle are concerned, it is obvious that Česká zbrojovka has perfectly managed this field. The cheekpiece can be elevated up to the required height, and it can be even installed to the right side which is a great advantage for left-handed shooters (of course, there is still the exclusively right-hand bolt handle but this should not cause much trouble to an experienced shooter). The butt plate offers a wide range of options conforming to the individual needs - it can be adjusted in height and it is provided with three exchangeable pads of different widths. Bearing in mind all these adjustment options, you will hardly find a sniper shooter who would not be able to adjust the CZ 750 stock according to his individual measures and needs.

We have already mentioned the duralumin mounting rail located at the bottom of the forend, however it is necessary to emphasize that the rail is long enough



The CZ 755 S3 M1 – a transition in the evolution of the new generation of the specialized CZ sniper rifles.



to enable to change the gravity center of the whole rifle by moving the bipod. Resistant against less careful handling for example while in transport, the surface of the polymer stock is provided with a checkering which substantially contributes to reliable grip of the rifle even with wet hands.

The barreled action is anchored into the stock by two screws – one of them being sited in the forend, another behind the cartridge well. Originally, the rifle's accuracy and alignment were regulated before the final assembly with the help of a special compound filled in between the stock and the receiver. Nevertheless, this belongs to the past already – at present time, a duralumin insert, embedded into the stock, fulfills the same purpose in a substantially simpler and more effective way.

### DESIGNED FOR URBAN AREAS

The same barreled action, the same controls and handling, more compact size – that is a brief characterization of the CZ 750 S1 M2 model. While the standard model of the rifle is the classical modern sniper rifle with a wide effective range, the shortened version was designed as a high precision rifle for use in constrained spaces and urban areas with the possibility to install a sound suppressor (that is why it is sometimes designated as the subsonic version). It can be used in various situations but the manufacturer presents it mostly as a rifle aimed for the fight against the enemy sniper shooters.

The CZ 750 S1 M2 can be easily distinguished by the shorter barrel. As usual, Česká zbrojovka tested several versions of the barrel; nevertheless, the objective was more challenging in this case due to the requirement that the barrel should be applicable not only with subsonic ammunition and the silencer installed, but also with standard cartridges. The final product of the

development was the 450mm barrel with 4 right-hand grooves and a 10 inches twist rate. Using the subsonic ammunition and the silencer, this sniper rifle precisely hits a target within 300 metres, while without the silencer and with the use of common cartridges it hits a target within 500 metres. This performance is more than sufficient for use in urban areas.

The silencer supplied with the rifle is provided with 8 chambers, complies with the MIL-STD-1474 NATO standard and reduces the sound to 124 dB; at the same time, it substantially reduces the flash produced at the muzzle. By the way, the silencer features the same minimum durability without any deterioration in accuracy as the barrel – the respectable 5 000 shots.

When standard ammunition is used the silencer can be removed and the muzzle is provided with a cap installed on the right-hand

thread of the muzzle. An interesting piece of information for comparison: according to the measurements carried out by Česká zbrojovka, when firing the 7.62x51 NATO Norma Diamond Line cartridges with a 168 grains bullet without the use of a silencer the sound level only slightly exceeded 150 dB.

Thanks to the shorter barrel, this subsonic version is equipped with a shorter polymer stock – more precisely the forend is 11cm shorter in comparison to the CZ 750 S1 M1 which required to shorten the duralumin mounting rail for the bipod to 155mm. On the other hand, the **CZ 750 S1 M2** features the same excellent ergonomics and flawless construction as the standard model. Bearing in mind that the weight reduction is more than half a kilo, the CZ 750 S1 M2 is a smart, easy-to-use sniper rifle with capacity for a great piece of work when used by a professional.

### THE SPORTS VERSION

Sniper rifles have long ceased to be a privilege of sniper shooters only. Accurate shooting at long distances has become a popular sports discipline; in this regard, Česká zbrojovka prepared other versions of the CZ 750 sniper rifles: originally, it was the **CZ 750 S2 M1** model with a wooden stock which was, in the course of products unification, substituted by the **CZ 750 S1 M1 SPORT** – a model practically identical to the S1 M1 model. Even though the S2 M1 version already belongs to the past, we should briefly remind that it was typical for its sports stock made from la-minated wood which was not outfitted with the adjustable components but the ergonomics were still at the very best level. The most distinct features of the stock included the three longitudinal relief ports located at the forend which served for better cooling of the barrel and contributed to good balance of the rifle. Markedly elevated cheekpiece was

supposed to satisfy a wide spectrum of shooters. Much care was devoted to the shape and the inclination of the pistol grip in order to enable smooth pulling of the trigger without causing fatigue to the shooter's wrist and forearm. The fixed rubber Pachmayr butt plate was 0.8 inches thick.

The massive sports-style polymer knob of the bolt handle belonged to one of the most interesting "tweaks" designed particularly for the S2 M1 version. It was so successful that it started to be employed in all other models of the CZ 750 sniper rifles.

The S2 M1 model was provided with a pair of Trigatti swivel studs, whereas the front stud served for bipod attachment at the same time. Thanks to the material used and the shape of the stock, this model was one kilogram lighter than the basic S1 M1 version while sharing the same technical and tactical parameters (except for the muzzle which was not provided with a thread) including the minimum durability guaranteed by the manufacturer. However, in order to sustain the slim sport silhouette of the rifle, it was necessary to use the already mentioned 4-round magazine.

## TOP QUALITY ACCESSORIES

Within the development of the modern sniper rifle, Česká zbrojovka thoughtfully considered the optimum accessories following and also partially developed some of them. Extensive tests of riflescopes, the designers from Uherský Brod decided to go for the 6-24x56 T Carl Zeiss Diavary scope which is equipped with precisely grounded lens featuring a thin layer of magnesium fluoride that enhances lens speed. The crosshair includes the modern illuminated reticle arrangement and the possibility to estimate the distance of the target according to the height of a human figure. This rangefinder is equipped with a very fine parallax adjustment within range of 50 – 1 000 metres. The 56mm eyepiece diameter in combination with the variable magnification within the range of 6-24x provides for a sufficient field of view for combat zone observations as well as the consequent pin-point target acquisition. This riflescope is supplied with a two-piece low mount ring made by the same manufacturer.

We have already tackled the Harris bipod. Its advantages consist mainly in its simple installation, which is carried out with the help of one screw, and the quick, six-position height adjustment. The essential accessories of a modern sniper rifle include a mirage deflector which prevents from hot air mirage above the barrel and in the field of view of the riflescope; for the purpose of attachment of such a band, the CZ 750 rifles are provided with simple swivels situated approximately 1cm underneath the barrel surface. The accessories include also on all-purpose mounting wrench, a muzzle cap and four pieces of butt plate inserts. Based on the special requirement of the Czech Army, Česká zbrojovka developed a tactical transportation bag named TPO 05 for the purpose of transport. It is a nylon impregnated backpack bag which accommodates the rifle both comfortably and safely while transporting it in the battlefield; furthermore, the bag enables to pass the rifle on a rope down higher places as well as from a helicopter. The interesting

thing is that the TPO 05 bag can be used for a simple shelter construction.

## THE SUCCESSFUL WEAPON

Originating in the well-proven experience, the CZ 750 family was developed by the top designers closely cooperating with professional sniper and sports shooters. Such a combination is not a matter of course and the results speak for themselves. According to the opinion of experienced shooters – whose view is the most appreciated in this case – these rifles rank among the world's top of their kind, excelling by its perfect ergonomics, smooth travel of mechanism and, last but not least, by the innovative modular concept.

The CZ 750 rifles have been available in the market already several years and besides the successes achieved in the sports field they succeeded also in several procurement contracts from foreign armed and security units.

## LEADING TO THE NEW GENERATION

In 2010, Česká zbrojovka introduced the new **CZ 755 S3 M1** sniper rifle equipped with a heavy, broached barrel. One of its characteristic features was the new highly resistant duralumin stock with an ergonomic pistol grip and a simple, though very effective adjustable butt plate (provided with an integrated third support in addition to forward-located bipod). We cannot forget about the new magazine well designed for precise magazine guiding and an additional mounting rail according to MIL-STD-1913 at the front part of the receiver.

As this designation suggests, the new model by Česká zbrojovka returns to the roots of the CZ 750 family while employing the CZ 555 as the basis for construction. Owing to the CZ 555, the CZ 755 sniper rifle was provided with a short extractor which ensures reliable extraction and contributes to a smooth travel of the bolt.

It turned out that the CZ 755 S3 M1 rifle was not intended to become a part of the portfolio of Česká zbrojovka; in fact it was designed as a sort of "interim model", thanks to which Česká zbrojovka successfully tested several new components and principles. These are now being employed within the development of a completely new sniper rifle which will not be based on the current concept, however. As a matter of course, Česká zbrojovka employs the experience acquired by the professional sniper shooters from squads and army units within the course of various current military conflicts. ■

### CZ 750 S1 M1

Caliber	7.62x51 NATO
Overall length	1220 mm
Barrel length	660 mm
Height	175 mm
Width	77 mm
Weight without cartridges and bipod	5.8 kg
Weight without cartridges with the bipod installed	6.2 kg
Magazine capacity	10 cartridges