

The aim of this thesis is to introduce the basic information about the forensic ballistics and about the procedure of ballistic experts.

The first chapter is dedicated to clarification the fundamental terms of the subject matter of this thesis. Beside the term of forensic ballistics I also introduce the meaning of some other related terms used in the following text. Next chapter deals with the history and development of the ballistics.

The key feature of every ballistic researches are the ballistics marks described in the third chapter. I focus on the ballistic marks division, the origin and occurrence and receiving of these. The gunshot residues are mentioned in their own subchapter.

The objects of the ballistic researches, listed in the chapter four, are firearms, ammunition and animate or inanimate target.

Next chapter deals with the range of ballistic researches which can be divided into two groups. Within the frame of the identification examination of firearms and ammunition, the individual and group identification of the gun used in a criminal offence is performed. That means the ballistic marks from the seized firearm are compared with the ones detected in a crime scene. Within the frame of the non-identification examination the firearms and ammunition characteristics, the shooting direction, distance, the trajectory and the shooter's stance are discovered. The third subchapter makes reference to the new Centrální registr zbraní (Central register of firearms) and to the Ústřední sbírka balistických stop (Central collection of ballistic marks).

The last chapter is aimed at the legal regulations of the firearms and ammunition.

I outline the future development of the forensic ballistics especially with the reference to the 3D printers which are capable of printing fully-functional firearm at the end of the thesis. Because of the plastic used for its making, these firearms are non-traceable with the common detection devices in most cases. Hence these plastic firearms represent a huge security issue which needs to be dealt with as soon as possible.

This thesis also includes a comparison of the given matters with the practice in the United States of America.