

DIAGNOSTIC EXAMINATIONS OF FIREARMS

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Abstract:

The article discusses the term diagnostics and the concept of diagnostic ballistic examination, the subject and objects of this type of examination, the main tasks, questions that are formed for experts when assigning this type of examination. Based on the theoretical views of industry specialists and the analysis of expert practice, recommendations have been developed on the stages of the process of solving the tasks of diagnostic ballistic studies and the specifics of their implementation, conducting diagnostic studies of firearms in individual cases (for example, shooting using non-standard cartridges of various calibers). It is proven that the solution of the issues of diagnostic forensic examination is based on the comprehensive military-technical knowledge of the experts of the material part, the principles of the device and interaction of parts and mechanisms of combat, hunting and sports weapons.

Keywords: *forensic diagnostics, diagnostic forensic ballistic examination, subject of diagnostic forensic ballistic examination, object of diagnostic forensic ballistic examination, tasks of diagnostic forensic ballistic examination, stages of diagnostic examinations, non-standard cartridges, gas and signal pistols, devices for muzzle section of the barrel.*

Emergence of diagnostic forensic examination Russian criminologist VA Related to the name Snetkov. It was this scientist who studied the characteristics of non-identification examinations that are not related to identification processes , and in 1972 he was the first to use the concept of " diagnostic examinations " [1 , C. 103-104].

It should be noted that the development of the methodology of diagnostic air ballistic research has not yet been completed.

" Diagnosis " is a content , a process and a way of knowing means a complex concept covering elements. A number of scientists of our republic say that the word " Diagnostics " comes from Greek and means " to distinguish " , " to identify " . In criminology, diagnostics is defined as " distinguishing the investigated case from similar cases , i.e. separating and differentiating it from similar cases " [2 , B.36 ; 3, B.17]. Yu.G. According to Korukhov, "this method of knowledge allows to get an idea about the mechanism of occurrence of the crime event as a whole or its individual parts, based on the selective study of the state and characteristics of interacting objects " [4, S.45].

IV Latishov in the forensic ballistic examination refers to the mental operations of "classification of objects and extrapolation (applying the conclusions obtained on the basis of studying and researching a part of an object and event to other parts of it), small arms, ammunition defines it as a cognitive process, activity based on the methods of testing technical systems designed to determine the group characteristics, technical condition and parameters of drugs and other objects of forensic ballistics [5, S.164]. "Specific features of forensic ballistics diagnostic work," writes IV Pogrebnoy, "first of all, his research objects - firearms, ammunition and traces of their impact - are unique. consists of features" [6, P.7].

Solving crimes and The role of diagnostic and forensic ballistic expertise in the investigation is very important . Because the diagnostic research of weapons allows to solve various special tasks and the information of these tasks for effective investigation of criminal cases. importance is very high. In particular, a number of experts "Diagnostic-type tasks of forensic ballistic expertise - issues of diagnosing objects of expertise, i.e. in order to determine the combat properties, technical adjustment, suitability for firing of firearms and combat ammunition made in different ways (in a factory or by hand), to determine the firing capabilities of the weapon under certain conditions of the investigated event research, preparation for experimental shootings to determine the combat properties of the presented object, the order and method of conducting them, chemical and "includes the tasks of preparation for physical research and conducting them" [7, B.28] .

The information obtained as a result of the investigation of the state of the firearm allows to determine the various circumstances of the incident, including the determination of the state of the commission of the crime.

In addition to the above, "the diagnosis of the weapon is also important for the formation of the investigator's opinion about the subjective side of the crime, the qualification of the accused's act" [4, S.96].

Examining the relationship of diagnostics to group membership determination, classification and identity studies, it can be noted that until now there is no generally accepted understanding of the essence of diagnostics and the laws that form its basis.

The combined beginning of identification and diagnosis is their common goal - to create information about the incident. If the purpose of identification is to determine the individuality of the object of research , then the purpose of diagnosis should be determined through the subject of application of the object of research.

But determining the essence of the subject of criminalistic diagnostics belongs to the category of controversial issues and goes a little beyond the tasks of these studies. Therefore, Yu.G. Korukhov's subject of criminological diagnostics "in order to determine the mechanism of a general criminal act or its specific circumstances, to know the changes that occurred as a result of the commission of a crime and the reasons and conditions of these changes based on the selective study of the characteristics and state of interacting objects ” [4, S.96] should be added to the definition.

From the above, the essence of the object being diagnosed as the subject of diagnosis is calculated as the sum of the characteristics that are important for solving the task and these characteristics help to study the phenomenon of crime. what information can be derived. "The subject of the diagnostic process is the essence and state of the object, various situations of events, etc., and its essence is the content of the process of determining the above situations; if the subject of the identification process is the presence or absence of identity, its content is the process of determining the presence or absence of identity" [8, P.224].

The subject of diagnostic forensic ballistics is research of components of firearms, research of firearms with limited damage, barrel gas guns, air guns and their cartridges, determination of the condition of the weapon, expert research of hand-made firearms, firing traces, etc. such as

determining cases of firearms use, conducting certain types of forensic ballistic examination studies at the scene of the incident.

The purpose of firearms diagnostic research is to determine the condition of the object and the conditions that caused this condition. For example, an expert determines the presence of characteristic contamination on the walls of the barrel channel of a firearm, that is, in what condition the weapon was presented to the expert - cleaned or not. If there is contamination, the forensic expert will determine the cause of their formation - as a result of shooting, environmental impact or improper storage conditions, etc.

the diagnostic process, the following type tasks are solved:

- *the study of echo marks of the object* : studies of the effect of the characteristics of the bullet material on the mechanism of formation of marks . The goal is to identify traces of the gun barrel channel on the bullet and determining the position of the trunk channel according to the reflected traces ;
- *the characteristics and condition of the object, as well as studies of its reflections* : characteristics of the gunpowder charge to study the effect on the process of formation of marks on arrows. The goal is changes in the nature of the traces of the barrel channel on the bullet determining the cause and effect , determining the parameters and condition of the trunk channel ;
- *studies of echo traces of objects , their characteristics and condition, as well as situations or mutual relations of objects* : according to the traces of the barrel channel on the fired bullet , from a hand-made barrel gun Diagnosis of shooting . The goal is to determine the traces of the barrel channel of the weapon , to compare their characteristics with the traces of bullets fired from standard (factory-made) weapons, from these characteristics to determine deviations , to determine the causes of changes in the characteristics of the traces and the spheres .
- *studies of object echoes , results of actions , situations or mutual relations of objects : distinguishing traces of the gun barrel channel and other objects (silencer, obstacle-target)* . The goal is to determine the presence of traces on the surface of the bullet caused by shooting with a silencer or passing through an obstacle , to solve the issue of the mechanism of the formation of such traces [8, P.327] .

Yu.G. According to Korukhov, "all diagnostic tasks can be divided into four groups, each of which has its own merits: studies of object echoes; studies of the properties and condition of the object; studies of action (event) results; studies of situations (events, processes) or mutual relations of objects" [4, S.84-85].

The subject of the diagnostic forensic ballistics examination is also reflected in the questions that the investigator (court) asks the expert to solve in the decision on the appointment of the expert.

It is worth noting that the completeness and timely performance of the examination is largely related to the investigation of a criminal case, the correct statement of the specific situation of interest to the investigator in the decision on the appointment of an examination (judgment) related to the arrival.

The methods of diagnostic research when conducting a ballistic examination depend on the answers to the following questions:

- identification of firearms based on traces of fired bullets and casings; - to determine whether the fired bullet and cartridge case previously (before firing) belonged to the same cartridge; - parts belong to a specific type of firearm; - identification of tools and mechanisms used for the preparation of weapons, ammunition and cartridges; - determining the technical adjustment of firearms and ammunition and their suitability for firing; - to determine the possibility of firing a firearm with certain cartridges; - to determine the possibility of systematic, aimed shooting from

a firearm; - determining the number of shots and the sequence of injuries caused by shooting [8, S.327].

The content of the diagnostics of the criminalistic expertise, which is determined by the activity of studying the nature, circumstances, characteristics and interdependence of the objects related to the criminal event under investigation, their mutual differentiation and identification - during the expert research, various technical requires the use of forensic tools and techniques. For example, expert diagnosis of the characteristics of weapons and cartridges is carried out by analyzing their structure, studying markings and comparing the obtained data with information in information bases. At the same time, the availability and quality of relevant information in such information bases creates a positive result in many ways, as well as (in some cases) the possibility of diagnosing the characteristics of weapons and ammunition.

Diagnostic tasks are necessarily performed in the classification and identification of research objects and in a certain sense serve as the basis for all types of expertise studies of firearms.

In our opinion, the process of solving the tasks of diagnostic ballistic research should consist of three stages: correctly understanding the task and correctly determining the possibilities of solving it, choosing the optimal procedure (algorithm) for performing the tasks, taking the selected actions (operation) perform in the specified order (in sequence).

Diagnostic studies of firearms will consist of the study of material parts of firearms, based on their variety and diversity. The material evidence presented during such examinations is the firearm's relevance, its technical condition and combat characteristics, whether it is possible to fire without pressing the release loop (unintentionally, accidentally), the reasons for the barrel cracking, questions about how the serial weapon was manufactured, what markings are on this weapon are resolved [8, S.327].

In the decision on the appointment of a diagnostic forensic ballistic examination, the investigator, usually in cases where the owner of this item is suspected of illegal carrying, storage, production and sale of firearms, as well as signs of an improvised weapon on the seized item in such cases, it raises questions about whether the item belongs to firearms.

When an improvised weapon is seized in a case, questions arise about whether the object belongs to firearms, in this regard, the forensic expert may be asked the following additional question: what type of firearm is this improvised weapon What are the combat characteristics of a serial weapon?

determine whether an item submitted for examination belongs to firearms often arises in relation to firearms made and modified by hand. Handguns can be chambered for the *5.6 mm small caliber cartridge, loaded behind the barrel and muzzle-loading*.

Modified firearms are typically combat firearms that have been shortened by cutting off the barrel and stock. To shoot with cartridges not intended for a specific type of weapon, the dimensions of the barrel cartridge are changed, or another barrel of a smaller caliber is placed in the barrel channel ("inner barrel").

The possibility of shooting is the main feature that determines the relativity of the studied object to firearms. In addition, firearms must have a damaging (damaging) effect, which is determined by muzzle energy. The amount of muzzle energy can be determined by the initial velocity of the fired projectile and its penetrating effect.

The conclusion that the studied object belongs to firearms is issued if this weapon has the following three main components (mechanisms): a barrel, a closing mechanism (which closes the rear part of the barrel channel) and firing mechanism (for igniting explosive propellant - gunpowder, combustible substance of match grain). In order to provide information about the level of danger of the weapon to human life and health, the expert's report notes the piercing ability of the projectile.

Diagnostic expertise of firearms is also assigned to determine the technical condition of the weapon.

In this case, in the decision to appoint a court diagnostic expertise, the investigator may ask the expert the following questions:

it a firearm submitted for examination ? ;

is it possible to shoot systematically (in the prescribed order) from this weapon ?;

this weapon be fired?;

weapon technically sound ; if it is faulty , what is the fault and how can it be eliminated (fixed) ?

When it is necessary to determine the various characteristics of a firearm , the forensic expert may be asked the following questions:

how this weapon was made (factory, craft or hand-made) ;

if if the weapon is factory- made , what is its system, model , model ;

if the weapon is handmade, what parts of a standard weapon were used to make it ;

and what kind of equipment is used to make a hand-crafted weapon prepared;

this weapon has been modified to shoot non-standard cartridges for it ; if it was changed , exactly which cartridges were changed [8, S.326].

the diagnostic forensic examination, the investigator may also ask the expert the following questions:

A crack in the barrel of a weapon submitted for examination what are the reasons;

in the gun What is the meaning and significance of the deleted markings .

Firearms were fired using non-standard cartridges q Investigating homicide crimes in practice , there are certain difficulties in carrying out studies of fired bullets and cartridges . In such cases, the peculiarity of expert research is to determine in time the condition of firing cartridges from weapons not intended for firing from them, whether or not there are special marks on the marks indicating this condition on bullets and cartridges.

When conducting studies of fired bullets, it should be remembered that non-standard cartridges can be fired from weapons of the same caliber as the caliber of the cartridge, as well as from weapons of a smaller or larger caliber than the cartridge.

In this case, the traces of the gun barrel channel on the fired bullets are formed differently . For example, a non- stat with a caliber larger than the caliber of the weapon when a bullet is fired with cartridges, the bullet is significantly elongated, and not only the traces of the areas of the special grooves in the barrel channel , but also the traces of the bottom of these grooves are fully reflected on its surface . In this case, traces of worn (worn) gun barrel channels are clearly visible. According to the arrows with such traces, it will always be possible to determine the group belonging to the used weapon.

Sometimes criminals use modified weapons to commit murder. It is known from expert practice that gas and signal weapons of some models are often modified, for example, "RS-22 Straj", "GR-22" revolvers, "6P42", "6P37", "IJ-78", "IJ-79", "Walter PP", "Walter PPK" pistols or foreign pistols and revolvers - "RECK", "Olympic", "RG-89", "RG-800". In such situations, mirroring (identification) will also have its own characteristics.

It's also important to remember that criminals often use various devices (such as silencers, muzzle brakes, silencers, etc.) when using firearms, which are used to prevent the shooter or the weapon from being fired. serves to reduce the impact of unpleasant situations that may occur. The use of gas

devices designed for installation at the mouth of the barrel significantly reduces the "kick" of the weapon (energy to return the barrel to its original position), reduces the fire and sound effect, increases the accuracy of shooting from automatic weapons, etc.

These devices affect the characteristics of bullet traces to a certain extent, because the flow of gunpowder gases from the barrel channel undergoes certain changes when passing through the mouth of the barrel channel, this situation must be taken into account by forensic experts when conducting ballistic studies [8, S.327].

Solving the issues of diagnostic forensic expertise is based on the military-technical knowledge of water experts on the principles of operation and interaction of the material parts, details and mechanisms of combat, hunting and sports weapons.

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