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TACTICS OF INSPECTION OF INDIVIDUAL OBJECTS AFTER EXPLOSION

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Abstract: *This article discusses the tactical aspects of inspecting individual objects after an explosion. In this, the specific aspects of the inspection of the building where the explosion occurred, the open area, and the vehicle were analyzed.*

Also, the procedure for comprehensive inspection of the objects where the explosions took place, issues of the tactics of inspection of the explosion site will be considered. In addition, the use of technical means at the place of the explosion, the issues of formalizing the inspection process of taking samples were analyzed.

Keywords: *explosion, review, explosion center, explosive, concentric, frontal, explosive device, explosive object, blast area, blast boundary.*

Inspection The most complex and time-consuming type of investigative action is the inspection of the scene after the explosion. Inspection is a procedural action consisting of direct observation and analysis of objects of material conditions by the investigator in order to find crime traces and physical evidence, to determine the conditions of the investigated incident and other circumstances of the incident.

Explosive incidents can be intentional or negligent.

In 2020, 12 cases of gas explosions were observed in Uzbekistan. 147 citizens were injured and 19 died [1].

When the explosion events were studied, it was known that the cause of its occurrence was the failure of gas pipes, non-observance of safety rules in the use of heating devices.

In practice, when incidents related to explosions are observed, in such cases, it is necessary to improve the knowledge of the investigators about the tactics of examining the crime scene. Examining the scene of the accident is the main investigative action, and its correct organization and conduct allows planning of further investigative actions and identification of the person who committed the illegal action.

Of explosive-related crimes significantly disrupts public order in the country, and the low level of detection of these types of crimes affects citizens. undermines confidence in security and effectiveness of law enforcement agencies.

Thus, a timely, complete and tactically correct examination of the scene will create correct versions in the future, correctly direct the investigation of the crime, identify the criminal and obtain a lot of important information, the circumstances that

need to be proven in the criminal case, that is, the time, place, method of committing the crime, motives and goals, factors contributing to its occurrence, the nature and amount of the damage caused, etc., can be determined.

Therefore, it is appropriate to consider the tactics of inspecting the buildings, open spaces, and vehicles where the explosion took place. After all, only a scientifically based and practically proven approach to inspecting the scene of the incident allows not to lose important points in the investigation and ensures the completeness of obtaining information from the scene of the incident.

Inspection of buildings for explosions.

The most frequent explosions inside a building are deflagration explosions. They are distinguished by different appearances, because the location of residential, office and industrial buildings is different.

A deflagration explosion requires that a flammable gas or vapor is mixed with air in such a ratio that the mixture is between the lower and upper explosive concentration limits. The optimal mixture for detonation contains the necessary amount of combustible components and air for complete combustion. Information about the concentration , that is, the composition of the most common compounds, is presented in the table.

Flammable component	It is in $_{n,}$ m/s	□	C $_{st}$, g/m ^{3}	C $_{npv}$, g/m ^{3}	C $_{vpv}$, g/m ^{3}
Hydrogen	2.67	8.45	24.4	3.3	62
Acetylene	1.57	8.9	82.55	27	1063
Ethylene	0.74	8.28	80.3	36	366
Propane	0.46	8.06	72.7	41	166
Methane	0.34	7.55	62.4	34.5	98

Physico-chemical properties of some flammable mixtures [2]

To understand what happens during explosions inside the building, it is useful to consider a number of simple cases.

After the explosion, windows are usually damaged in the room, sometimes frames or doors. The air shock wave destroys furniture and its parts , causes cracks in ceiling panels and intermediate (non-permanent) walls . In other rooms located at a considerable distance from the center of the explosion, considerable damage is caused by the shock waves and damage to property there . During an explosion in a room, the exact center of the explosion is always in the form of holes and cracks in the concrete floor, damage to wooden floors or destruction of furniture. Around the center of the explosion, traces of the heat of the explosion products, i.e. smoke,

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burning, burning traces can be observed. The remains (fragments) of explosive devices are mainly located in the examined room, therefore, by carefully searching the investigated area by squares, it is possible to identify almost all elements of the device and things that are part of the design.

When an apartment, house or dacha explodes, the degree of destruction of neighboring buildings along with these objects is also determined. Damage caused to the entrance door, wall, floor, and ceiling of buildings should be considered.

The scene of the incident is first examined in the usual manner, and visible evidence is taken. A complete re-examination is then carried out by an additive specialist, and everything else relevant to the job is also taken.

Explosive site inspection is one of the most common types of inspection and also one of the most difficult.

The high density of simple equipment creates difficulties in inspection.

In order to better understand what happened in the building, it is necessary to restore the original state of the objects, determine the boundaries of the explosion, determine the situation before the explosion and obtain the testimony of witnesses.

The inspection drawing should show the dimensions of the buildings, the location and operation of the electrical transmission lines, gas supply and ventilation systems.

The exact location of the explosion traces should be indicated in the incident report. By determining the center of gravity, the blast distance can be measured and the direction indicated.

"The peculiarity of the investigation of the explosion site is that it is carried out in zones far from the epicenter of the explosion" [3].

As a rule, most of the surviving parts of the explosive device are located inside buildings, and finding them requires concentration.

The simplest explosive devices are often used in indoor buildings . The design of these devices may not have a shell, but may consist of a combination of different fire wires.

Disorganized construction debris significantly complicates the search for explosive device particles. Therefore, when inspecting the scene, it is necessary to carefully sift through the construction debris.

Similarly, it is desirable to search for particles of an explosive device by spreading the remains of plaster, brick dust and other things on a thin surface layer and using a strong magnet. "In it, the smallest particles of an explosive device,

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individual parts of a watch mechanism, fire wire, battery particles, etc. can be found" [4].

Explosion **a report on** the inspection of the premises will be drawn up. In it, the implementation of inspection and and the results are recorded. In the report, the center of the explosion, the boundaries of the explosion, damaged property, injured persons , confiscated items and samples . location will be displayed. The necessary diagrams, plans, drawings and photo tables are prepared and attached to the report.

the inspection results should be done from general to specific. First of all, it is necessary to describe the surrounding area where the explosion occurred, the center of the explosion, and then show the borders of the investigated area or buildings.

It is here that objects, traces, control samples are collected and packaged. Found and confiscated items, traces, micro-objects are recorded in the report. In this the names of these elements, general and specific characteristics, and packaging details are described. In the description, it is important to indicate how to identify and obtain them.

Inspection of the explosion site in the open field.

In cases involving the use of explosive devices in open areas, inspection of the incident site requires a large area to be examined, otherwise it will not be possible to identify and fully record all traces of the explosion.

Also, the inconvenience of the area and the effect of precipitation complicate the inspection.

On the one hand, the lack of objects in the open field simplifies the image of the explosion, and on the other hand, it causes the explosive device parts to spread over a considerable distance.

In cases where the explosion has a large destructive power, it is advisable to divide the area into sectors and inspect them in sequence [5].

The center of the explosion is taken as the starting point of the inspection. The traces of the explosion found later are measured by the distance to the center of the explosion and indicated by numbers.

As a rule, the form and size of pits formed as a result of explosion in an open field should be recorded in the report. In cases where the nature of the soil in the explosion pits is different, samples are taken from each soil layer, should be recorded in the report.

The parameters of the resulting depth are recorded in detail in the report. At this location, soil samples are taken to identify the chemical used as an explosive.

It is desirable to take soil samples for examination from five places of the pit formed after the explosion. An equivalent amount of control material taken a short distance from the place of origin should be available. Explosive residue may remain on the clothes of the suspect or victim of the explosion, so during the examination of these residues should be sent to an expert institution as soon as possible for identification, careful packaging and inspection.

Concentric and frontal methods can be used to examine the site of an explosion that occurred in an open area.

For example, if the explosion occurs in a large open area, it is appropriate to use the frontal method.

The concentric method is used for relatively small open areas.

In order to ensure the sequence of actions related to the detection and search of traces of the explosion, to surround the incident site in order to protect it, t ezkor - team members it is necessary to plan the issues of using special vehicles.

The following should be taken into account when planning:

- taking into account weather conditions (rain, snow can destroy traces of explosives or wash away its water-soluble components possible);

- organization of checking the presence of other explosive devices;

- ensuring the presence of an explosives specialist, members of a special operational team, persons involved in helping them, the rules for obtaining and packing evidence , safety measures in the performance of work provision and others.

Thus, the main goal of this stage is to determine the signs of the explosion of the explosive device , its strength, the presence (absence) of a durable body, the evaluation of the elements of fragmentation, the determination of the limits of inspection, taking into account the initial situation about the explosive device, the mass of the charge and the center of the explosion, the material condition and consists of determining the methods and techniques of detailed inspection according to the available forces and means [6].

At the final stage of the inspection of the scene of the incident, the investigator prepares an inspection report, in which the objects in the area under inspection , the center of the explosion, the boundary of the explosion, the explosive substance, information such as explosive device, explosive object, explosion area, explosion trace, damage distance are recorded. A map of the explosion area is drawn and attached to the report.

Also, objects taken from the explosion site should be packed and sent to a special place for storage.

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Inspection of the vehicle involved in the explosion.

When an explosion is carried out in a vehicle, the main part of the traces of the explosion is in the immediate area, and individual elements of the explosive device can fall further. Therefore, the area surrounding the vehicle should be carefully inspected.

When an explosion occurs in a car, it is necessary to separate the parts of the explosive device from the objects at the scene. In this case, it is necessary to involve a specialist in explosion technology and automotive engineering in the inspection process. Experts decide whether the items found belong to a vehicle or an explosive device.

Explosive particles are difficult to detect and remove, and in many cases it is mixed with oil and other products in the vehicle and area.

Cars can be blown up using electrical or mechanical methods .

The car battery itself is usually used as a power source for such explosive devices. The detonator can be connected to various elements of the car's low-voltage electrical network.

the electrical method to detonate a moving vehicle, usually secondary elements of the car's electrical network (turn signals, headlights) are used.

During the inspection of the car, it is necessary to pay attention to the condition of the electric wires in it in relation to the factory condition. The presence of elements not specified by the manufacturer may indicate that the explosive device is electrically activated. However, it is worth noting that recently, the electric means of explosion can sometimes be carried out remotely using a radio transmitter and radio receiver [7].

In mechanical detonation, a number of methods are used to initiate the explosive device. For example, the pressure boosting device can be activated as a result of the pressure change in the wheels when the car starts to move.

It should be noted that in the case of an explosion of a moving vehicle, the entire area of the vehicle's movement, that is, from the time of the explosion to the place where it stopped, should be inspected.

The location of the explosive device is usually chosen depending on the goals of the criminal.

Thus, an explosive device placed in the wheel area or under the engine may indicate that the criminal intended to cause material damage.

In cases where the goal is to harm the life and health of the driver or passenger, the explosive device is installed under the seats (including at the bottom of the car

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body) or behind them, as well as under the instrument panel or hood in the steering column area [8].

Complicating the investigation is the fire caused by the explosion. Fire source and explosion center there are matching cases. This leads to the destruction or alteration of objects important to the investigation. The effect of heat on the elements of the explosive device leads to a change in their shape and the final explosion of the explosive particles in general.

Therefore, in such cases, it is necessary to look for traces of explosive substances and explosive devices outside the vehicle. During detonation, they are thrown out of the vehicle by the blast wave, but traces of the explosive substance can be noticed on their surface.

In such cases, the location of the explosive device is determined by the directions of deformation of the vehicle structure caused by the explosion, local disproportionate damage to the structures, for example, the appearance of holes on the surface of the vehicle.

According to what has been stated, the building, open space, and vehicle where the explosion took place should be thoroughly inspected, the objects related to the explosion should be taken, the relevant specialists should be involved in this process, the evidence items should be sent for storage in the prescribed manner, and procedural documents should be drawn up. must

Digital data forms play an important role in the investigation and prosecution of crimes. Today, tools and methods aimed at hindering the effectiveness of digital evidence verification are increasing[9]. In the future, organizations that attract and rely on digital forensics experts will also develop [10].

In cases involving the use of explosive devices, the tactics of examining the scene of the incident are divided into several stages.

The preparatory stage is of great importance for all subsequent investigative actions, the involvement of the necessary specialists and appropriate technical means greatly contributes to the completeness of the information obtained. Also, at this stage of the scene examination, attention is paid to the need to ensure separation of the scene for the safety of citizens, as well as to prevent the situation from changing, this requirement often leads to the loss of important information for the investigation.

In cases involving the use of explosive devices, the stage of detailed examination of the scene of the incident requires the transition from the general to the specific, as well as the requirement not to change physical evidence. At this stage, it

is of particular importance to accurately record the traces found at the scene of the incident in a report and on video and photo recording devices.

it is required to take traces, preserve them in their original form , as well as comply with the rules of criminal procedure. At this stage, special attention should be paid to the specific characteristics of keeping microparticles and odor traces . Because material evidence of this category is improperly obtained and stored , they lose their significance as material evidence.

International and developed foreign countries' systems of practice should be used when inspecting explosion- related incident sites.

In cases of explosions, 3D scanning and 3D imaging methods should be used to reconstruct the scene. Because these methods are of great importance for perfect inspection of the incident site, neutralization of the incident site, and ensuring the safety of inspection participants.

It is recommended to use unmanned drones when inspecting explosion sites in open and large areas. Modern drones are equipped with powerful cameras and artificial intelligence programs, which have a great positive impact on the effectiveness of investigative efforts.

In conclusion, the effective detection of crimes related to the use of explosive devices depends to a large extent on the effectiveness of law enforcement agencies in examining the scene of the incident and the completeness of the information obtained in this category of cases. Therefore, we believe that it is very necessary to have knowledge about the processes that occur during the explosion of an explosive device, to use the theoretical and practical achievements of forensic science in this field.

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