

WRITTEN PREPARATION

Subject: Artillery Tactics
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Topic: T17: Battlespace management – air (4p + 2c)
Objective: To get acquainted with the principles of battlespace management in the air dimension.

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1) Coordination Measures

Coordination measures (air and fire support) can be managed in two or three ways (methods):

- Procedural Control;
- Positive Control;
- their combinations.

Procedural management of coordination measures

It is based on pre-prepared and agreed coordination arrangements for spaces and lines (ACM / FSCM). Procedural control is more restrictive than positive control, but is more resistant to disruption of communications or other areas of command and control. Used for fire support coordination measures as well as for air coordination measures.

Positive management of coordination measures

It is based on the use of means enabling the identification, monitoring and control of means (especially aircraft) in real time. It is the coordination and deconfliction of the activities of means on the battlefield in real time. This method is freer than procedural management, but requires a high level of situational awareness of the responsible persons about the activity, amount and position of individual means present in the airspace. Positive control is used exclusively for air coordination measures.

2) Airspace Coordination Measures

The purpose of Airspace Coordination Measures (ACM) is to allocate a certain part of the airspace for a specific purpose and time. The aim is to maximize the effectiveness of the use of

individual types of forces by being able to operate independently and flexibly without the risk of disrupting the activities of other types of troops.

Air coordination measures also serve to reduce the risk of air collisions when interacting.

Air coordination measures can be seen as reserving airspace to certain users, restricting the activities of airspace users.

Air coordination measures also directly affect the activities of artillery, which is also a user of airspace. In addition, from the point of view of artillery activity as an overarching component of joint fire support, it is essential that artillery officers know the characteristics of ACMs perfectly.

Ground Based Air Defense (GBAD) is also heavily involved in the whole planning and management process.

The most common ACMs are:

- Coordination Level (CL)
- High Density Airspace Control Zone (HIDACZ)
- Restricted Operating Zone (ROZ)
- Weapon Engagement Zone (WEZ)
- Base Defense Zone (BDZ)
- Air Route (AR - Air Routes)
- Surface Kill Box (SKB)

COORDINATION LEVEL (CL)

Height, defining the coordination authority and designed to deconflict individual airspace users. Below this height, the activities of the air force aircraft must be coordinated with the air traffic control unit (fire coordination) and above this height, the activities of the air force aircraft (typically helicopters) must be coordinated with the air force.

The aim is to divide the activities of "fast" and "slow" means and thus ensure the safety of air traffic. CL defines who controls airspace at what height - it forbids anyone to descend or ascend higher!

HIGH DENSITY AIRSPACE CONTROL ZONE (HIDACZ)

HIDACZ is a three-dimensional airspace with dimensions defined by the airspace control authority, in which the activities of several different users are concentrated. HIDACZ allows specific users to operate freely, which helps the ground commander more easily achieve the desired effect on the target.

HIDACZ typically operates close air support aircraft in conjunction with combat helicopters.

It is preferred that the activity in the HIDACZ be controlled by a coordination element, such as a JTAC or a FAC (A).

RESTRICTED OPERATING ZONE (ROZ)

A ROZ is a three-dimensional airspace with dimensions defined by the airspace control authority that has been created following certain events and for which specific restrictions have been set for one or more airspace users.

Artillery support bodies are often used to separate fire from aircraft operations. ROZ is usually smaller than HIDACZ and is reserved for only one activity (firing, UAV reconnaissance, combat helicopter activity). Typical cases of ROZek for artillery support are measures referred to as Hot Wall and Goalpost. Activities in ROZ are managed by a designated authority.

3) Deconfliction

Deconfection is an activity used to prevent or correct the conflicting arrangement of individual elements. In our case, the elements are individual factors on the battlefield.

Deconfection in the environment of joint fire support thus serves to prevent conflicting activities, especially of aircraft of all types and means of direct and especially indirect fire.

The key workplaces dealing with deconfection are the Workplaces for the Coordination of Joint Fire Support (SKP / MKP) and the Air Operations Center (AOCC). Airspace deconfection is performed by JTAC (BALO), which is in charge of airspace management in the area of operation. For reliable deconfection, he needs the maximum amount of information that, for example, in terms of joint fire support, is provided primarily by fire support officers.

Airspace deconfection can be performed by air coordination measures or by separation methods.

The main areas of deconfliction are:

- Deconfliction of ground fire and air force means
- Deconfliction of ground fire and air force (typically helicopters)
- Ground-to-ground missile deconfliction
- Deconfliction of UAVs and specific types of ammunition

DECONFLICTION OF GROUND FIRE AND AIR FORCE

In the case of deconfliction of ground firings and air force means, the key factors are the parameters of the trajectory of the ground artillery missile, namely the direction and maximum height of the top of the trajectory (MAXORD, VERTEX).

Typically, in this case, ROZs are created that include all the airspace needed to perform the firing task. ROZ does not prohibit the entry of aircraft, but it ensures that all traffic within the ROZ is controlled. This increases the flexibility of using airspace while guaranteeing safety.

DECONFLICTION OF GROUND FIRE AND MILITARY AVIATION EQUIPMENT

In the case of deconfliction of ground fire and air force means, ROZs are created around the firing position and target. These RUs should be planned if possible. ROZ can also be created unplanned by requesting them through the Airspace Management Authority (JTAC). ROZ can be created and inactive, and will be activated only when needed.

UAV DECONFLICTION AND SPECIAL AMMUNITION

The activities of UAVs, as well as specific types of ammunition, such as loitering, must be deconflicted in the same way as the activities of other means. It is best to plan the activities of these devices in advance so that they appear in the air traffic control documents issued for the day. The biggest problem can be gliding ammunition, which flies slowly and over long distances. Its positive control is possible, but difficult.

Typically, this deconfliction is solved by means of a ROZ above the launch point (if ground), a flight corridor and an impact point, then the ROZ is created around the waiting area before hitting the target (Holding Area).

4) Separation Methods

Elements of fire support, or workplaces that are responsible for its coordination (SKP / MKP) must be acquainted with the created ACMs and know exactly what conditions apply to them.

The airspace management body is responsible for airspace management and the administration of ACMs - in the case of the ACR, it is typically the JTAC, which is part of the fire coordination workplaces.

If no JTAC or other body responsible for airspace management is present, the fire coordination workplace assumes this responsibility!

Fire support officers must be well acquainted with the separation methods that can be used to achieve airspace deconfection, thus ensuring the safe operation of all airspace users.

We currently distinguish 4 methods for separating individual airspace users:

- A. LATERAL (Lateral Separation);
- B. ALTITUDE (Vertical Separation);
- C. TIME (Time Separation);
- D. COMBINATION (Mixture).

LATERAL SEPARATION

Lateral separation is based on the division of spaces according to predetermined lines (axes). Most often, these axes are coordinate lines, but other lines can be used. If separation is required, the individual factors are limited in their scope in relation to the given line.

Typically, in the case of the use of coordinate lines, the division is made by instructing the aircraft to stay on a certain major world side from the determined coordinate line.

ALTITUDE SEPARATION

As the name suggests, it is a matter of separating individual devices by determining the flight altitude of aircraft. Altitude separation allows the simultaneous use of fire support means and aircraft over the target area.

The height of the top of the missile's flight path (MAXORD, VERTEX) is important for altitude separation. At the same time, it is important to know in which reference plane the individual height data are given. The units in which the data is transmitted are also important. Aircraft often use feet for altitude data.

TIME SEPARATION

The time separation is based on the time limitation of the action of individual components. This method of separation is typical especially for targets that need to be kept silent for a period of time and is typically used in Suppression of Enemy Air Defense (SEAD) missions based on silencing enemy air defenses.

References

Basic

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Recommended

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