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# HOW TO PROTECT YOURSELF FROM ENEMY DRONES

## INFANTRY ADVICE

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## DISGUISE

A feature of this war is the constant threat from the air. The sky is full of unmanned aerial vehicles (UAVs), from which it is very difficult to hide. The equipment and skills of UAV operators are constantly being improved, so in order to survive, a serviceman must develop vigilance and caution.

It's to help you stay invisible to drones, and therefore unharmed, that these tips have been compiled. Although this guide does not contain descriptions of super-secret methods that will make you completely invisible to enemy drones (because such methods do not exist), it does provide important basic rules and guidelines. If you follow these tips, dig in, camouflage yourself and camouflage your positions and equipment, always consider that you are being watched from above, you will be able to increase your safety, survive and defeat the enemy.

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1. Remember that the enemy is watching everything on the front line — from buildings to trees. All changes in the landscape, the disappearance or appearance of objects, changes in colors - he will detect after analyzing photo and video recordings, if he did not see it immediately.

2. That is why minimally change everything around you. Hide equipment, firearms and the actual number of fighters in the position. Under these conditions, there is a chance that your position will not be considered a priority and will not be fired upon. Drones over positions will not disappear, but they have a limited flight resource, and if there is "nothing interesting" in your position, the enemy will not waste time on it.

3. Prepare and disguise your positions as much as possible. Even if your unit has entered fixed positions, they can always be improved. Set up backup positions, add new shelters and create false targets. Change the assignment of positions. It is very likely that the enemy knows what and where was there before.

4. Everything must be camouflaged: trenches, equipment, warehouses. When masking, do not forget that you can observe the positions from different angles. Thanks to the ability to enlarge the image and adjust the height of the flight, aerial reconnaissance sees everything not only from above, but also from the side and even from the rear. Therefore, it is necessary to mask the positions on 360 degrees from all sides.

5. Each area is unique. First of all, use what is characteristic of her for masking. In the forest, there are branches, turf, and grass. In the settlement there are bricks, slate, boards. In an open area, masking must be carried out taking into account the pore

year, using for this purpose the upper natural layer typical for the season (chernozem, sand, snow, yellowed leaves, etc.).

6. If possible, use camouflage nets, but be sure to check how well their pattern and texture match the locality. If not, the grid will reveal rather than mask.



**Fig. 1. The masking grid does not match the environment.**

Source: Vsim UA.

7. Garbage kills. He threw a bag, a bottle, a wrapper, paper at the position — he expressed himself. If you didn't clean up after yourself or your friend, consider that you sent a signal to enemy intelligence. Collect, hide (dig) or covertly remove all garbage from the position. However, if the position is arranged in a littered place, there is no need to tidy up. The absence of garbage, if everything is covered with it, will be unmasked.

8. Avoid trampling new paths - they show your movement. It is best to use the natural landscape or trails that existed before your arrival.

9. Trenches are hard to hide — most likely, they will be seen anyway. But it is not necessary to simplify the work of the enemy. Put down the top layer of soil (preferably with sod), and then cover the soil you dug with it.

10. If possible, make sure that the lines of cracks, trenches, ditches, and trenches coincide as much as possible with the relief lines on the terrain. A ditch or crevice with an outline that blends into the surrounding landscape can hide positions well for a while. Avoid the square edges of trenches, trenches, ditches - there are almost no straight lines in nature.



**Fig. 2. Examples of unmasked positions.**

Source: LB UA.

11. Disguise all entrances to crevices, dugouts and holes so that they do not look like "black holes", and even better - cover them with nets and branches so that nothing flies inside. It is best to cover/re-cover so that the specific entrance to the dugout is invisible.

12. If you are in a populated area, avoid open movement on roofs, between buildings and near windows. For movement, use hidden routes that are difficult to see from above: gaps in the walls or passages covered from above.

13. If you are located in a building, don't rush to cover the windows with film, plywood, mesh, blankets - this changes the facade of the room and attracts attention. The general rule is that all places where you are should not stand out against the general background of the area.



Fig. 3. The observation point, which was equipped in the annex unmasking green color.  
Photo from open sources.

14. It is better to take the Starlink away from your location and cover it with a camouflage cape. If possible, hide it in a pit — this will protect it from the effects of enemy REB and debris. Make a pedestal for him so that he does not drown in water. Remember that camouflage capes absorb water, and water does not pass the signal well. Therefore, it is better to make them on stands. In no case should you look for a better signal and place Starlink as high as possible on trees, hills and rooftops - it is dangerous. Wires from Starlink, and generally all wires that are at your location, need to be hidden or masked with what is characteristic of the position: leaves, branches, moss.



Figure 4. An example of a Starlink location that unmask the entire position.  
Photo from open sources.

15. If the conditions at the position allow to put the generator, it should be placed in a protected place. It is best if it is hidden not only from observation from above, but also from reset. Therefore, it is better to hide the generator under a canopy (in a building) or in a specially dug shelter. In addition, it will reduce the volume of its operation.

16. Separately, you need to take care of the fuel for the generator. First, do not place it in the shelter together with the generator. Secondly, also hide it, it is best — in the basement (in a building) or in a separate hole. This is to reduce the risk of destruction in the event of an attack on the position. During a possible or actual attack on positions, do not hide in places where BC or fuel are located. It is impossible to know for sure that it will "not hit" there, so do not increase the risk of dying by hiding next to something that burns and explodes well.

17. Equipment, especially armored vehicles, is always a priority for enemy artillery. Her stay in the position is undesirable. It is best for the technician to come only when necessary and quickly leave the position after completing the task. If possible, it is worth making several points for the entrance of equipment.

18. Equipment that remains in position is almost impossible to hide from UAVs. The unloading point should be 300-1000 m from the main position. At the point of unloading there should be several trenches where, in case of danger, those who unload will hide, and hidden places where the cargo is stacked. All traces of equipment near the position must be immediately removed, destroyed or disguised.

19. If, after all, there is a need for the equipment to be near the positions for a long time, make every effort to disguise it. It is not necessary to place the equipment in an open area with a uniform background, devoid of natural camouflage, irregularities and contrasting spots. Canopy or camouflage net should be used only if they COMPLETELY hide the equipment and its silhouette.



**Fig. 5. The example is bad camouflaged equipment.**  
Textile-Contact.



**Fig. 5. The example is good camouflaged equipment.**  
Photo from open sources.

20. It is better to place the equipment below ground level. The caponir vortex protects it from indirect damage. Disguise the equipment and hood using camouflage nets, turf, branches so that it is impossible to understand what is under them. The masking contour should be wider than both the object and the hood. In addition, the equipment must be covered with nets, protecting it from spills. A fishing net can hold a grenade, but to protect against kamikaze drone attacks, a metal net (such as netting) will be needed to be stretched over the object.



**Fig. 7. Unmasking arrangement of equipment.**  
Source: GO Aerorozovdka.

21. If possible, ask for advice from air reconnaissance. Photo and video recording of your positions from different angles will help you find weak points and correct mistakes. Just don't forget to ask scouts to share their observations.

## EQUIPMENT

22. Setting up positions is hard work and at the same time the most de-masking stage of the unit's work. In addition to the human commotion, a large number of other unmasking signs appear (fresh soil, new paths, a change in the landscape). Therefore, choosing the time and place for setting up a position should be considered. For example, it is better to arrange trenches or conduct other engineering works at dawn or dusk - at this time, the activity of enemy aerial reconnaissance decreases. Remember that UAVs are difficult to fly in strong winds and rain. At night, the intensity of flights decreases, but at the same time, drones operate more efficiently thanks to the use of thermal imagers.

23. The simplest shelter, which can be quickly created, disguised and used if necessary, is a "hole", a small single trench dug at an angle or perpendicular to the trench. This makes it possible to quickly take cover if necessary. And also, such shelter protects against reset and partially prevents you from being seen from above. A whole network of well-disguised holes in the position will provide an opportunity to hide and wait out an attack from the air. Burrows can also be used as resting places to avoid crowding in the dugout.

24. Make as many closed gaps as possible, in particular at the edges of the trenches. It is very difficult to see, and even more so to drop something into such a shelter. The cover hides movement in the trenches and prevents the enemy aerial reconnaissance from targeting in the event of an attempt to drop into the trench. For this, all materials that can be delivered to the position or found on the spot, from chipboard to a densely packed branch, will do. All this must be properly disguised. The cover should not only cover your object, but also mask its contours. That is, from above, even when observing from different angles, it should be unclear what exactly is hidden there.

25. Another way to secure positions is to cover them with nets that allow you to catch everything dropped from drones. As in the case of equipment, this can be fishing nets (easy to carry, can protect against wogs and grenades), or metal chain-link nets (can keep larger munitions from being dropped). The best solution would be to arrange such structures in several layers.

26. Covering trenches, gaps and trenches will not allow the enemy to observe the movement of your unit, and at the same time, help you conduct covert observation yourself. Therefore, make holes (with protective mesh curtains) in the ceiling and use a periscope and binoculars to observe while remaining invisible.



**Fig. 8. The grid saved from reset.**

Photo from open sources.

27. Constantly work on increasing the number of disguised rooms and shelters. Spending all your energy on creating one comfortable and safe dugout in which several people can be at the same time is a big mistake! No matter how perfect and comfortable the dugout or house is, don't gather more than three people there. Bullets and well-equipped shelters will always be on the enemy's list of priority targets for dropping ammunition or directing mortars or artillery. Also, the idea of "having a smoke break" or "drinking a seagull" in a group is quite dangerous.

28. It is better to make exits from dugouts with a turn in the shape of the letter G - this will protect against debris in the event of a hit by FPV drones or dropping ammunition in the area of the entrance to the shelter. Be sure to equip a second entrance to the dugout, as the first one may be damaged or collapsed as a result of a hit.

29. Make a pipe from a small pipe or ventilation above the exit from the dugout with a cover - a "mushroom". Wrap it with a net, or move it to the side to avoid dropping ammunition into them. These holes should also be masked with natural materials.

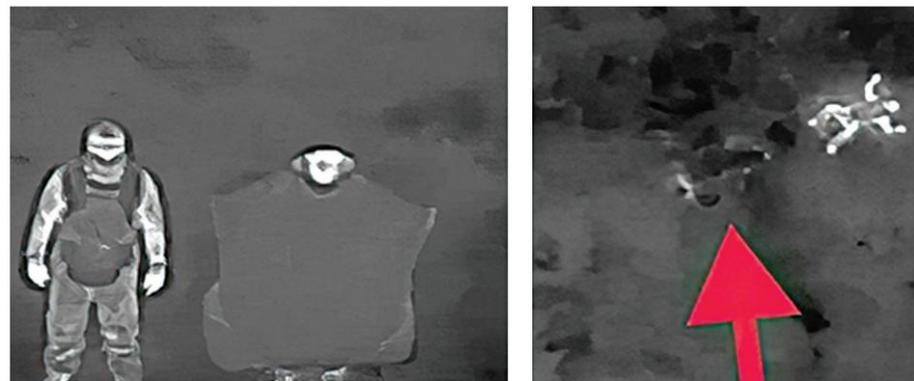
30. When setting up positions, hide all your goods below ground level. Backpacks, boxes, "zinc" and other things immediately make the position "interesting" for an attack from the air.

## BEHAVIOR

31. A typical aerial reconnaissance tactic is a night inspection of objects previously scouted during the day. Therefore, all movements in the position should be reduced to a minimum (even at night). If you must move, stay close to buildings, move under large trees with leaves and under cover.

32. Adhere to the mode of light masking at night (constantly remind yourself and others about the dangers of smoking, using flashlights, lighting bonfires, the light of headlights, screens and everything else in the position!). If you want to deceive the enemy, do all the light-masking in the wrong positions, let the enemy "fall" there.

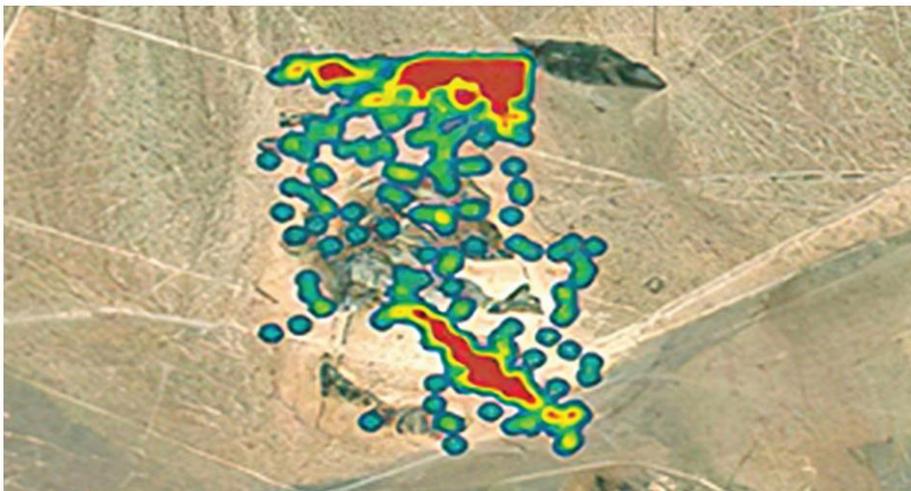
33. For equipment covering trenches, use thermal blankets, similar to those that are often placed in takmed first-aid kits. If possible, take care and use mylar capes, blankets, cloth. They effectively reflect infrared radiation.



**Fig. 9-10. What does a thermal blanket look like in a thermal imager.**

Dzherelo: Defense Express.

34. Make sure that your phone and the phones of your siblings are in flight mode. Only under such conditions, the enemy will not understand exactly how many people are in the position. In addition, it increases the chances of remaining invisible to Orlan's direction finders. Don't be fooled by this rule. In addition to the number of people at the position, the enemy can even find out your phone number and a lot of other information about you and your relatives.



**Fig. 11. How aerial reconnaissance sees a cluster of signals mobile phones, Wi-Fi, radios.**

Author: Col. Scott Woodward, US Army.

35. Move in the area of responsibility only if it is absolutely necessary. Avoid moving in groups unless necessary. Disguise movement using natural objects (bushes, ditches, tall grass, trees) and maintain spacing between combatants.

36. It is desirable to move in the shade of trees. Stop only in the shade. Hide from the drone only in the shadows. Do not make sudden movements and do not run - sudden movements are very noticeable. Remember that in the morning and in the evening you are unmasked by your long shadow on the ground. It is clearly visible from the drone.

37. Most often, observation posts are exposed during their occupation and equipment, as well as during the change of observers.

38. If you crowd into positions or move in groups, tread new trails, gather in dugouts to receive or cook food, change guards, and deliver something to a position at the same time - this makes you very predictable and vulnerable. **Remember that rooting kills.** Even if you managed to make a good living in combat conditions, you are most likely already being watched

39. Sometimes it is worth creating false objects that will distract attention, force the enemy to spend resources on their study and even attack. It can be imitation of fire means (for example, a machine gun or mortar), imitation of vehicles, equipment of positions in the wrong direction in order to demonstrate their presence or divert attention from the real actions and positions of units.

40. Organization of constant monitoring of the "air" is a basic requirement for safety. The sooner you detect an enemy UAV, the more time you will have to prepare for a possible attack or unwanted surveillance of you. Remember that UAVs can be heard much better at night than during the day.

41. During the day, the drone is inconspicuous already at a height of 100-300 meters, so it is first detected by sound, and then fixed visually. It is useful to have optics and radio scanners to detect UAVs in the sky at a considerable distance. For example, at night, a flying copter can be seen in the thermal imager at a distance of up to 1 km.

42. All objects in the air should be perceived as hostile until information appears that they are your own.

43. The best thing to prepare in advance is to get such devices as a frequency analyzer/anti-drone gun and learn how to use them. The presence of a combat calculation with a frequency analyzer and an anti-drone gun makes your position "unmanageable" for enemy aerial reconnaissance. But do not neglect the camouflage of the anti-drone gun operator - he will be hunted! Due to the fact that the anti-drone gun has an unusual appearance, the operator is easy to recognize and attack. Repaint the gun (note that metallic paint can cause the gun to malfunction), wrap it with masking tape, re-contour it, or disguise it in some other way.

44. If you see an enemy copter in the distance and high, do not run to your positions to hide. After all, in this way you will arrange for the enemy a tour of the places of deployment of your unit. It is better to die and not move, lowering the silhouette as much as possible. Immovable is more difficult to identify. If movement is necessary, move only along predetermined routes that do not lead directly to positions.

45. If an enemy drone hovers low above you, most likely, you have been spotted and are preparing to drop. In this case, it is necessary to take shelter immediately. At the same time, if it is impossible to do it right away, move quickly, change the direction of movement every 7-10 meters, run in a snake, then it will be much more difficult to make an accurate reset. However, do not forget about other threats.

46. Not every cover is suitable for hiding. Drones most often conduct reconnaissance at an angle, they can descend low enough, so simply covering without walls is not suitable.

47. Also, if an enemy copter is hovering over you, you can try to shoot it down with small arms. But by order, not chaotically. In addition, one or two barrels will not be enough for this. It is necessary to create a "cloud" of balls into which he will fall. If it is moving, shoot ahead (approximately at the body of the drone in the direction of movement).

48. Touching a copter that has fallen is not a good idea, as it can be mined.

49. Some enemy UAVs are equipped with radio reconnaissance systems. This means that even if your position is not detected visually, you can be "calculated" with the help of radio signals, clusters of mobile subscribers, Wi-Fi and Bluetooth signals. More than three GSM terminals (phones or tablets) are already considered a cluster that arouses the interest of the enemy. That is why the use of phones and tablets outside of the "flight" mode is prohibited at positions. If the situation still requires the opposite, you should at least avoid the simultaneous use of three or more terminals. If possible, you can create false clusters (away from your positions).

## USE OF FUMES

50. The use of smoke may be necessary in case of an attack on your position. With the help of a smoke screen, it is possible to temporarily disguise movement and location, hide the evacuation of the wounded and the implementation of maneuvers, or simulate damage to equipment.



**Fig. 12. Covering the battlefield with smoke.**

Photo from open sources.

51. A well-applied smoke screen can cover an area larger than a position from observation for a long time. Also, the use of smoke can hide local landmarks, which will make correction difficult. The main thing is that the objects you are trying to hide (personnel, equipment, BC) should not be in the center of the curtain itself.

52. It is desirable to have a sufficient supply of means of creating a smoke screen in order to use them in turn and maintain masking for a certain time. Intervals between smoke sources when setting up curtains: during a frontal wind - up to 30 m, during an oblique wind - 50-60 m,

during a flanking wind - 100-150 m. Do not forget about the direction of the wind - the smoke should go in such a way as to cover positions and movements.

53. To install a smoke screen in the department, it is better to appoint two or three servicemen. Each of them should have up to 10-12 hand smoke grenades or 3-5 smoke grenades.

54. To mislead the enemy and mask your actions, you use smoke in the wrong positions or wrong routes of movement.



## USEFUL LINKS:

The official website of the Armed Forces of the Armed Forces of Ukraine

[tro.mil.gov.ua](http://tro.mil.gov.ua)

Information hygiene recommendations:

[github.com/sapran/dontclickshit](https://github.com/sapran/dontclickshit) Information

portal of the Territorial Defense Forces of the Ukrainian Armed Forces:

[sprotvvg7.com.ua/](http://sprotvvg7.com.ua/) Official

page of the Territorial Defense Forces of the Ukrainian Armed

Forces on Facebook: [facebook.com/TerritorialDefenseForces](https://facebook.com/TerritorialDefenseForces)