

Camouflage and Concealment

(Notes accompanying the slide chart presentation)

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Introduction

The success of the sniper's mission depends heavily upon the ability of the sniper to approach, remain concealed and engage the target undetected. The accepted standard is to move within 200 meters of a trained observer, fire two shots, one with a walker within 3 meters, and egress the area without detection. This demonstrates the sniper's ability to move to within 200 meters of an Observation Post, which would be placed from 150 to 200 meters from the perimeter. The actual target would be inside the perimeter and this would account for the 400 to 600 meter shot. These requirements test the sniper's ability not only to move stealthily, but his skill in the art, and science, of camouflage. Remember that the sniper's mission is not suicide, thus he must now leave the area without detection while the enemy is fully alert and has an attitude problem.

Definitions

The sniper must first understand the difference in the terms cover, concealment, and camouflage. **Cover** is the protection of the sniper from small arms fire. Cover can be natural such as a hiding place behind a rock or it can be manmade, such as a tank. The enemy may know where the sniper is located but can not hit the sniper with small arms fire. Cover, while protection from small arms fire, does not mean the sniper is undetected and when under cover the sniper can not complete his mission. The sniper must come out of cover to see the target and engage and once out the enemy now has the capability of detecting and engaging the sniper. This means that the sniper must rely on concealment.

Concealment can be natural or artificial protection from enemy observation. The surroundings may provide natural concealment, which needs no change prior to use such as bushes, grass and shadows. The sniper can also create artificial concealment from materials such as burlap and camouflage nets. Or he can move natural materials (bushes, leaves, and grass) from their original locations, and create areas that work with his artificial camouflage. The sniper must consider the effects of the change of seasons, weather, and light on the concealment provided by both natural and artificial materials.

Camouflage is those measures the sniper takes to conceal himself and his equipment from enemy observation. As with concealment, camouflage may be artificial or natural. Artificial camouflage is any material or substance, which is man made and is used for the purpose of concealing through color, outline change, or texture. Natural camouflage is vegetation or materials that are native to the given area. The sniper will always augment his appearance by using natural camouflage. The ratio of natural to artificial would be approximately 60 to 70 percent natural to 30 to 40 percent artificial. Man made substances will always appear, under scrutiny, to be man made. The secret to camouflage is to never draw the attention of the enemy and create a reason for the enemy to inspect with close scrutiny your position. Once that occurs, you will be observed due to target indicators.

Target indicators

Target indicators are anything that a sniper does or fails to do that could result in being detected. A sniper must know and understand target indicators to not only move undetected, but also to detect enemy movement. The sniper trains to seek and engage targets; knowledge of target indicators are vital in his quest NOT to be a target himself.

Target indicators are grouped into the four areas or senses of olfactory, tactile, auditory, and visual. Olfactory is what you do, or fail to do, that allows the enemy to smell your presence. Tactile is what you do or fail to do that allows the

enemy to touch an object that gives away your presence. Auditory is what you do or fail to do that allows the enemy to hear your presence. Visual is what you do or fail to do that allows the enemy to see you or indications that you are present.

Each target indicator must be further examined to look at some very specific causes, which reveal the position of the sniper. We will begin with the Tactile Target Indicator.

Target indicators: Tactile (Touch)

The tactile target indicator is an indicator that you would usually leave at your final firing point, whether it is a hasty or deliberate hide site. Usually the tactile indicator would be of a very close nature to you and this would in itself be a major problem. However, in the process of building your hide site you may leave tactile indicators a distance from your hide site and this would indicate that you are in the area. Cut branches from hide construction or partial clearing of a fire lane, trip wires or warning devices would be examples of these types of indicators. Closer to your site would be poorly concealed hide edges, equipment left outside the hide, litter, etc. This indicator will cause the enemy to look at the area harder and will probably result in your capture. When cutting branches or material for your site or fire lane always cut in a manner that the enemy would not bump into the sharp cut edges. This means cut below the ground surface or directly against the parent tree or shrub. Use of booby traps and warning devices near your FFP is usually counter productive. Always check and maintain your hide or FFP site to prevent edges from being exposed.

Target indicators: Olfactory (Smell)

The olfactory target indicator will not show the enemy, under normal circumstances, exactly where you are, only that you are in the area. This is enough to ruin your whole day if he comes after you with dogs and a concerted effort to kill. The indicators include cooking, smoking, soaps, lotions, latrines, deodorants, insect repellents, weapons-cleaning solvents, etc. The sniper team must learn to negate most of these odors or match them to the surrounding area. Snipers should carry food that does not require cooking and the food should be of low moisture content. This lowers the odor factor somewhat, but does not negate the odor of food. Use of tobacco products should not be permitted on a mission. The sniper team should use the same materials as the enemy for weapons cleaning while on a mission. The sniper team should also eat the same food as the enemy prior to infiltration and for the duration of the assignment. This will change the body's chemical balance to closer that of the enemy and aid in masking your different body odor. Essentially your survival requires you to smell as the enemy, so as not to attract attention.

Target indicators: Auditory (Hear)

The auditory target indicator is a bigger factor during hours of darkness and periods of fog or light mist. Movement, equipment rattling or talking causes sound. Some low-level noise may be dismissed as natural, however, equipment sounds, talking, metal on metal, will not be dismissed, as will unnatural rustling of foliage or digging. When traveling, always pay attention to what you are stepping on. Remember that animals are bare footed and if you wouldn't step on it barefooted then don't step on it now while traveling. Stop and listen to the surrounding sounds, do not forget them or the normal lack of sounds. Always move with minimum change in those sounds. All of the proper techniques of noise discipline can be adhered to and then destroyed by the sudden noise of panicked animals. Always pay attention to what you are moving into and avoid areas that give indications of being inhabited by birds or small animals. In addition to sound created is the sudden lack of sound caused by the sudden hush of insect buzzing. Just as the olfactory indicator, the auditory will give away your presence to the enemy, and probably the direction to you, but not your exact location.

Target indicators: Visual (See)

The visual target indicators are comprised of various factors that can be individual in nature but usually are overlapping. A visual indicator, unlike the others, will tell the enemy exactly where you are located and thus are the main

ingredient of camouflage. These factors are described as *Why Things Are Seen*. These various factors include the following list, and are what the sniper must guard against.

Target indicators: Visual: Siting

The first factor is siting. This is simply something which does not belong in the immediate surroundings. This becomes obvious and is readily detectable. This will arouse the observer's curiosity and cause him to investigate the area more thoroughly. All other factors usually arise from the siting factor. A siting error would be a natural camouflage in the wrong area, such as oak leaves presented in pine trees. Mounds caused from hide construction on a flat field. Dark green colors present in a field of light green. Siting is usually dependent upon the mission, dispersion (with multiple teams) and terrain patterns. The sniper must take these factors into consideration when planning his site and matching his camouflage. Also remember that if an area appears to be the perfect location for a sniper hide or final firing position, then the enemy knows that as well as you do and will probably have greater observation on the area and may have it pre-registered for indirect fire.

Target indicators: Visual: Shape

Shape is the next factor of why things are seen. Most objects can be recognized instantly by their shape, especially when it contrasts with the background. Experience teaches people to associate an object with its shape or outline. At a distance the outline of objects can be recognized well before the details of makeup can be determined. The human body, head and shoulder area especially, and the equipment a soldier carries are easily identified unless the outline has been altered. Several factors aggravate the situation for the sniper and they are the clear-cut outline of parts, or all of a sniper and/or his equipment. The sniper must remember that only man-made objects have geometric shapes. Mother Nature is very random in the formation of most things and as such geometric shapes do not occur in nature on a large scale. The shape factor is usually a result of other factors indicated below.

Target indicators: Visual: Shadow

Shadow is a double-edged sword for the sniper. Where light is excessively bright, shadows will look especially dark. Contrast will be extreme between the two areas and in this exaggerated contrast the observer's eye cannot adjust to both areas simultaneously. This can be used to the sniper's advantage as the light will be flat in the shadowed area, however do not become careless while in deep shadows. It is easy for the sniper to expose himself as a shadow against a lighted background of sunlight. In sunlight an object or a man will cast a shadow which can give away his presence. Care must be taken not to change the natural shape of a shadow. The sniper must always be aware of his location in relation to an area of light and try to avoid casting a shadow upon himself. This shadow will create a shape that is unnatural and attract the attention of an observer.

Target indicators: Visual: Silhouette

The silhouette factor will cause shape and can be the result of shadow, however it is usually the result of skylining. Remember, however, that any object silhouetted against a contrasting background is conspicuous. Any smooth, flat background such as water, a field, or worst of all the sky, will cause an object to become well defined in shape. However, an area with an uneven background helps the sniper, as it is more difficult to detect the silhouette of an object. Again, by casting a shadow on yourself you will create a silhouette, which can create a recognizable shape.

Target indicators: Visual: Surface

Surface factors include shine and texture. If an object has a surface, which contrasts with its surroundings, then it becomes conspicuous. Objects with a smooth surface will reflect light and become more obvious than an object with a rough surface that casts shadows on itself. An extremely smooth object becomes shiny and the reflections from a belt buckle, watches, or optical devices can be seen over a mile away from the source. Any shine will attract the observer's

attention. Another factor is the texture of the object to its background. The sniper must be aware that a pattern can not overcome a texture. Uniforms with patterns will not match the texture of terrain. The sniper must make this match with natural camouflage. The sniper should be aware that most things in nature do grow vertically and **NOT** horizontally. When attaching grass to the ghillie suit, take time to attach it vertically, as it grows, and not let it fall as it may. If the overall texture is vertical, as in grass, and the sniper introduces horizontal to the mix then the sniper will become noticeable.

Target indicators: Visual: Spacing

Spacing is a factor that usually does not effect the sniper as it does larger units unless multiple teams are used for a sniper ambush. Remember that nature never places objects in a regular equally spaced pattern. Only man places objects in rows and equally spaces those objects. Do not fall into the "army trap" of regularly spacing objects for beautiful uniformity. Where spacing does seem to effect the sniper is when the sniper rifle scope lens is on the same height as the observation scope lens. For some reason this is more noticeable then when there is a difference in height between the two.

Target indicators: Visual: Color

Color is a major problem for the sniper. Color is also the biggest cause of siting problems. Nature changes color on a regular basis and the sniper must match it as close as possible. This is only possible through the use of natural camouflage. The greater the contrasting color the more visible the object becomes. This is especially true when the color is not natural for that area. Black is not a natural color and just does not belong. The underside of leaves is lighter than the surface and the sniper will cause a problem if he does not take care when attaching leaves to his ghillie suit. Always avoid the use of any point of color that could attract the eye. Color alone will usually not identify the object but is often an aid in locating the sniper.

Target indicators: Visual: Movement

Movement is the final factor and is the **Proof** the enemy needs that you are there. This final reason why things are seen will seldom reveal the identity of an object, but is the most common reason for the sniper to reveal his position. Even when all other indicators are absent, movement will give a position away. The enemy observer may believe that something is wrong with an area and observe that area closely. Once the sniper moves, the enemy has all the **Proof** he needs to summon the hounds of war upon you. Movement that attracts the observer is jerky movement, or rapid movement. Always consider each move and keep that movement to a minimum. Always keep something between yourself and the observer when you do have to move. When observing, use the eyes as much as possible with minimal head movement. When rising your head up to observe always be aware that there is 6 inches minimum of head before your eyes are exposed. Just because you can't see, does not mean the enemy can't see your head movement. Do not only think in terms of your movement, but in terms of movement in your surrounding area, such as the bush you brushed up against, the birds that suddenly flew, or the small animal that ran in panic at your presence. A stationary object may be impossible to see, a slow moving object difficult to detect, but a quick or jerky movement **WILL** be seen.

Target indicators are inherent in the being and physical presence of the sniper. However, he may diminish or reduce his overall signal, and make his job easier, by eliminating the cause rather than masking it. Examples would be removing bright metal watches and jewelry, glasses' rims, etc. Also, don't clip bright writing instruments where they can be seen. If the sniper must write, it is best to use a small pad bound in a subdued binder, it is best to use paper that is of a subdued color such as buff. Eating utensils, cleaning equipment, and items of personal hygiene, should be dulled, taped or otherwise covered before the mission. Don't rub polish or oil onto boots, weapons, sheaths, etc. This creates a visual and perhaps olfactory target indicator. The sheen or gloss of new equipment or older cotton material should be dulled with paint, dirt or mud. Be aware that paint can become a fire hazard. The sniper does not want to be a Roman Candle, which would be one real big target indicator.

Remember and always keep the reasons why things are seen in your mind as you move into position and you can defeat the enemy's observation. Forget the factors and you will become another statistic.

Camouflage

The two major factors in camouflage are **camouflage discipline** and **camouflage construction**. Discipline is doing what is necessary to construct your camouflage and maintain that camouflage. Observe the area as you move through it and change out your natural to what is in your area as the natural changes. If the natural becomes wilted then change that out. If the natural becomes twisted or falls over, right it. Always check your partner and have him check you so as to maintain your level of camouflage. Camouflage construction has three different techniques. The sniper uses one technique primarily.

Camouflage construction consists of hiding, disguising and blending. **Hiding** means completely concealing the body from observation by lying or moving behind or in an object or thick vegetation. The sniper can not use hiding when he is in position because if the enemy can't see the sniper then the sniper can not see the enemy. Once the sniper can see the enemy then the enemy can see the sniper as well. The sniper must keep that in mind at all times! The sniper can use hiding while in movement to his objective. The sniper does want to keep something between him and the enemy as much as possible. The ghillie suit DOES NOT HIDE!

Deception through **disguising**. Deceiving is a technique used to trick the enemy into false conclusions about the location or identity of the sniper. In some theaters of operations, or during long overland movements, deception may include the use of disguises, such as simply adopting native dress and moving during hours of limited visibility so as to fool observers. A more elaborate plan, requiring more practice and familiarity with the area, would include walking, sitting, dressing and behaving as the local populace. The sniper must understand that disguising is a very difficult technique and is usually not worth the effort. The ghillie suit DOES NOT DISGUISE!

Blending is achieved by skillfully matching personal camouflage with the surrounding area, to a point where the sniper is part of the background. Blending is generally best achieved with bland colors, not dramatic patterns. This is the reason for ghillie suits, they blend the sniper in with the terrain and do not hide him nor make him appear as if he is a tree or bush. This is the technique the sniper will use most of the time and that the sniper must perfect.

Likely weather conditions for the duration of the mission must be taken into account, since this could affect the quantity and type of camouflage used. It will also effect the sequence and timing of camouflage maintenance. Remember that heat will dry out natural camouflage faster than damp weather. The rain will cause fabrics to become darker as they become wetter. Changes from damp cool to snow will cause a complete change in camouflage requirements. Just as a heavy rain after a light snow will require changes. As a sniper you must find out what the weather patterns will be for the duration of the mission and plan accordingly.

Terrain patterns vary during the mission, and movement. The terrain, or mission backdrop, at the objective may be different than that along the route to and from the objective. Again the sniper must go to the S3 and receive as much information on the area that the mission will be in as is possible. Read after action reports from any previous missions going into the area, or talk to friendly indigenous personnel. This will aid in preventing those nasty surprises.

Camouflage materials

There are two basic materials that can be used for camouflage, natural (preferred) and artificial. The sniper must also consider where the material is to be applied. Is it to be applied to the skin or to the uniform? What are the dangers of parasites in the area and what is the make up of the ground materials? These will effect decisions on the materials that you will use for camouflage and where you will apply them.

Camouflage materials: Natural

Natural camouflage for the skin could cause problems for the sniper later in the mission. Due to this, the sniper must be aware of the problems in the use of certain natural skin camouflage materials.

Camouflage materials: Natural: Grass

The first natural camouflage to discuss is the use of grass as a camouflage for the skin and clothing. While grass itself can not be applied to the skin, the resulting natural dye can be applied. This would be an emergency use item only. The resulting dye caused by grass is semi-permanent in nature. This means that the skin that is dyed would have to be sloughed off for the dye to disappear and this would result in blotching. While this is not a problem in a war zone, it could adversely impact the chances of a date the night after using this technique in a permissive environment. The sniper should also be aware of any caustic sap that may be in some grasses and make a sound judgment on its use. Grass used on the clothing is a must when moving through an area that is grassy. The problem with grass is the tendency to apply the grass in long pieces when short is better. Long grass on your uniform does two things, one it sticks above the rest of the grass as you move through it and especially when you have to observe through the top portion of grass (remember never look over anything if it can be avoided). The second problem with long sections of grass is that it lays over when attached to your uniform thus creating a texture problem. That being horizontal textures and patterns in a predominately vertical world. BAD SNIPER! Another problem that the sniper must be aware of is that grass is made up of two colors and the sniper must present the correct color to the target area or an observer will see a color error in the area. The top or upper side of the leaf is darker and shinier in color than the lower or bottom side of the leaf.

Camouflage materials: Natural: Leaves

As with grass, leaves can be used as a natural camouflage for both skin and uniform, and again the leaves would not go on the skin but the dye can be used. All of the same cautions are used as to the semi-permanence of the dyes and the caustic nature of some leaves (poison ivy jumps to mind here!). The sniper must look at the leaves the same as he did the grass as to which side is shown, except a screw up now is even worse in nature than the grass. As with grass there is a dark and light side and this difference is even more pronounced than with grass. The next problem that snipers seem to have is not noticing when they move from a three lobed leaf area to a single lobed leaf area. In short match the leaf and change the leaves, as necessary, when moving through your area. This is a basic part of camouflage discipline. Think about a patch of Oak leaves in a pine forest and you will get the idea! Add the fact that the light side is turned out and you have a compromised sniper. Remember that some type of natural camouflage, such as foliage, should **ALWAYS** be integrated into the camouflage design of the sniper's uniform, with one word of caution; beware of wilting.

Camouflage materials: Natural: Dyes

Both grass and leaves are natural dyes and so is any other by-product of live organisms. Some of the other items would be bark from trees, some saps, animal blood, coffee and tea (at various strengths), rock paint, and mud. All have definite problems, but can be used in an emergency when nothing else is available. You must understand these shortcomings and balance your needs with the dangers. Examples of potentially dangerous dyes would of course include the blood and would appear as obvious. Less apparent is the mud that contains parasites, bacteria, and other life threatening organisms. You must know your area before using mud. Mud can also be from an area that is sufficiently alkaline as to cause skin burning after a short period of time. This burn would not be felt until it is too late and the resulting reaction could cause a mission failure. With the mud would be classified regular dirt and sand. Any of these can be used on the skin or on the uniform as long as the dangers are taken into consideration, and the possible balance with mission failure. Rubbing two rocks together and adding water makes rock paint. This only works with certain soft stones and will come off with sweat. However, understand that rock is basically a silicon-based object. Hmmm, glass is silicon isn't it? Could this mean that you are rubbing small slivers of glass into the skin? Yes, if the wrong stones are selected. Soap and other stone from this family work well, most sand stone make wonderful rock paint and will cut you like a razor! A self-renewing

dye is the male facial hair and a beard will tone down the face and change the shape as well. You must balance out the sanitary hazards of a facial wound and infections caused by facial hair in a combat situation.

I must warn you of the danger of color to your scheme of camouflage. Even if you are in a flower garden, **DO NOT** use points of color as in flowers. Points of color catch the light and will attract the observer as soon as they move. This will cause the observer to watch the area and that will be your down fall. Never use flowers or any other colorful item as a camouflage.

Camouflage materials: Artificial

While natural camouflage is preferred, artificial will be used as the base for the sniper's uniform (Ghillie Suit etc.) and will make up the most of the sniper's skin camouflage. There are a number of items now available for camouflaging the skin. The first and most obvious is the military standard camouflage sticks. There are three sticks, however the sniper only needs to concern himself with two. The reason being, that there are but four colors available in the military sticks. Those colors are Loam, White, Light Green, and Sand. The three sticks consist of loam and light green, sand and light green, and loam and white. As can be seen, the loam and white stick with the light green and sand stick will give the sniper all of the colors available. Use of the military sticks are a simple matter of rubbing on and rubbing off your skin in one action. The sniper can use insect repellent to soften the sticks and this would be a definite advantage to the skin, but again what would the olfactory target indicator be and would it be a hazard to the sniper in itself? The Hunter's Specialties camouflage makeup and grease is an advantage in ease of use and color selection. However, always look at the colors around you before applying and avoid the trap of going **WAY** too dark. This is a common problem and it is aggravated in the field by the tendency of the sniper to cast a shadow upon himself while in position. Stage makeup is another possibility for the sniper and can be used in an emergency or when the coloration is required.

Camouflage sticks or face paints are used to cover **ALL** exposed areas of skin, such as face (including ears), hands and the back of the neck. Remember the rules that if it may be exposed, then camouflage. The parts of the face that form shadows should be lightened and the parts that shine should be darkened, thus forming a sort of "negative" of the normal appearance of the face. There are three types of camouflage pattern used by the sniper. Striping, the first type, is accomplished through use of regular or irregular stripes. This pattern is used when in heavily wooded areas and leafy vegetation is scarce. Blotching is the next technique, also called splotching; this is used when the area is thick with leafy vegetation. The "blotches" should be large and irregular. If they are too small, then at a distance the effect is lost, as with the BDU uniform. The sniper should remember that at distance most small patterns are lost in the shuffle and the eye takes in the dominant color. Combination is the last and is used when moving through changing terrain. It is normally the best all-around pattern. Always apply camouflage in pairs, and continuously re-check your partner and yourself.

Camouflage materials: Artificial: Why?

The main purpose of the artificial materials is the need to break up the **OUTLINE** of the sniper and deny the observer a **SHAPE** that he can see and recognize. This is the point of artificial, to break up the outline and allow the sniper to **BLEND** in with his surroundings. There are various types of cloth or materials that can be used while keeping in mind METT-T. You must be aware of some materials that have a natural shine such as nylon products. Artificial materials, such as paint, may be used to augment, or improve, the camouflage protection of already good cloth or materials. An example would be dark (not black) spray-paint splotches on OG 107 material; a neutral gray color is good for overall blending with the surroundings. The sniper must also be aware that paints can play a role in flame on when the sniper is wearing these materials next to an open flame. The most obvious material that is overused is burlap for the Ghillie suit. If the sniper remembers that burlap only looks like burlap and nothing else, then he will remember to go light. Using the burlap to break up the outline of the sniper's body and not build a new outline of the giant, hulking, Woolybooger Ghillie Monster! The sniper would also do well to remember that the burlap sold in most stores and placed in the Ghillie Suit Kit for the military, is produced in colors not normally found in nature, except possibly nuclear wastelands. The sniper would be better suited to acquire the natural color burlap and soak it in various strengths of tea and coffee. This will produce the desired earth tones that match nature much better than the artificial colors of man. The sniper will then need to shred the

burlap into usable pieces.

Camouflage materials: Artificial: Burlap

Buy the burlap in yard measurements as sold at cloth stores. This will permit the sniper to use all of the burlap and have little pieces floating into everything. By cutting the burlap into 12 inch to 16 inch squares, the sniper may now shred the burlap into individual strands and group them into a shape that is similar to grass. The sniper can also remove 1 1/2 to 2 inches from opposing sides and then cut the squares into 1 to 1 1/2 inch wide strips. This allows the burlap, shredded from the ends, to be used and the sniper can then use the strips, folded over, as additional eye confusion as is found at the base of grass clumps. The burlap can be tied into the netting of the suit or headdress using various techniques, and the sniper does not want to use various tying techniques. This also adds to the randomness and confusion that is evident in nature. Along with the burlap, the sniper can add pieces of hemp rope, hessian cloth, or any cloth that the sniper has found to blend in his area of operations. The sniper must always be on the lookout for these materials to improve his camouflage while in base camp or home base. It is always fun to watch little old ladies eyeing you as you move through the cloth section feeling the different clothes and checking both sides for color.

Camouflage materials: Artificial: Base Uniform

Another thing that the sniper must keep an open mind to is the base uniform that he will use for camouflage. This base uniform can be a standard issue military uniform, a military uniform of the country that the sniper is operating in, civilian camouflage uniforms, Civilian clothing (true urban camouflage). Onto this base uniform would be attached the Ghillie net, Ghillie hat, or a full Ghillie Suit would be used. The sniper must remember that the Ghillie Suit is not designed for general wear and that it indicates that you are a sniper. This is not a good thing around sniper conscience enemies. Also, camouflage netting, mosquito netting, IR netting, etc can be added to or used in conjunction with the Ghillie suit. In many circumstances, the Ghillie net or hat would be sufficient for the sniper. The Ghillie Net would be the net attached temporarily to the uniform and removed when not needed. It would have the same burlap garnish and space for the natural camouflage to be placed on the net. The net could be set up so as to have a hood that would rest over the sniper's head, arms, hands, weapon receiver and scope. This would cover the sniper while in position and would be tucked inside the shirt during movement. The Ghillie hat would be a boonie style hat with the brim stiffener cut off the wide brim. The net would be sewed over the top of the hat and have sufficient netting to cover part of the back and over the arms, hands, weapon receiver and scope. Again the net would have the burlap tied in and sufficient space for natural camouflage to be tied to the net.

Camouflage materials: Artificial: Drag Bags

Other equipment to be considered is drag bags for the weapons and equipment. Do not attempt to move into a final position during daylight wearing a rucksack or LBE. A rucksack and LBE will become a moving lump that can not be camouflaged. The sniper must remember that the drag bag is maintained under control at **ALL** times. The drag bag can become more of a hindrance than help in many circumstances. Drag bags constructed of stiff materials protect the weapon better and give a distinct signature due to that very stiffness. An example is the use of the 1950 weapons container for airborne infiltration also used as the drag bag with minor modification. It is very successful, but is also a tremendous signature. Soft bags do not seem to hang on the nearest item and wait a minute vines do not seem to leap 6 to 7 feet just to snag them as they do with the stiff bags. However, the soft bag does not protect as the stiff one does. Generally the compromise of the scope/receiver cover in conjunction with muzzle guard works the best. Protects the scope, receiver, and muzzle while leaving little to snag. Last word on drag bags, they **ARE NOT** for dragging!!!! The bag is to protect the weapon, especially the muzzle and scope, during the last portion of a stalk. This is when all of the sniper's attention is focused on his movement and small bad things can happen to the weapon. I have seen students dragging their weapon while walking, high crawling, and hands and knees movement. Allowing the weapon to drag on its own is foolhardy in the extreme. Always control the weapon; it can become, at a minimum, a giant hand waving to say, here I am, shoot my stupid arse !

Camouflage materials: Artificial: Optics

The next problem for the sniper is all the glass that he is about to expose to the enemy. This is in the form of the rifle scope, binoculars, and spotting scope as a minimum, with the addition of laser range finders, monocular, etc. a possibility. The sniper must reduce the glare and signature cat's eye of these optics without degrading their performance. This is actually easier than it first appears, since the real danger areas are the time when there is sufficient light to cause reflection and the black hole effect of the optics. When this is the case then the size of the objective lens can be drastically reduced without greatly affecting the optics. Only the center portion of the objective lens is used to observe through. The rest of the objective lens gathers light, and reflects it. By reducing the size of the objective and giving it an irregular shape the sniper reduces the possibility of compromise. The sniper does not want to permanently reduce the size, so a removable mask is the best way to go. The mask should be cut in an irregular patterned opening so as not to create a smaller, though just as defined, signature of optics. The sniper must also remember to maintain his observation scope just above the rifle scope, this prevents the spacing problem created by two circles at even height (binos). Another problem is the circle of the muzzle. This must also be reduced as a signature. The easiest way is through the use of burlap and placing it over the front top half of the muzzle. The initial, precursory column of air, muzzle blast, will move the burlap out of the way and the bullet will not touch the burlap. After the shot the burlap will fall back into place and recover the muzzle front until the next shot. Be aware that with each subsequent shot the burlap will shred and become less effective as a piece of camouflage. The weapon itself can be painted and the barrel can have some burlap placed around it as long as the stock is not also trapped in with the barrel. If this occurs then the barrel harmonics will be seriously harmed and accuracy will be destroyed. The rest of the weapon will be hidden from view by the sniper's body and his veil while in position. The best assurance of floated barrel is to always carry a strap of cloth under the barrel back at the recoil lug. Upon movement into the FFP and prior to the shot the cloth should be pulled the entire length of the forestock channel to insure that the barrel is floated. This prevents all of the garbage, grass, spiders and mites from residing in that area after the stalk. It also allows the sniper to know that his burlap has not wrapped up onto the stock and barrel, messing with the harmonics.

Camouflage materials: Artificial: Ghillie suit

The sniper constructs the Ghillie suit for himself. This allows the sniper to construct what he is comfortable with. There is no right way to do a ghillie suit, only guidelines. It may be as elaborate or as simple as the sniper requires. There are some guidelines that the sniper needs to follow. The base uniform can be the uniform the sniper is wearing or a dedicated uniform only for the ghillie suit. The base uniform should be a bland color of a light material and easily ventilated. Pockets on the front of the uniform can be removed, sewn shut, or not used during a stalk. Padding can be sewn into the knees and elbows of the uniform or worn under the uniform for the stalk. Heavy canvas can be sewn onto the front of the uniform to facilitate crawling or it can be omitted. Remember that this heavy material can cause a heat problem in hot climates. The netting can be sewn onto the base uniform or tacked onto the uniform with dark safety pins just prior to the stalk. Be careful with one-piece base uniforms due to ventilating problems.

The shirt of the base uniform will hold most of the netting with garnish. Care must be taken not to overload the net with garnish or you will create a new outline of the giant ghillie woollybooger. Leave spaces for natural, as this is what will blend the suit into the terrain. If the shirt is dedicated then the sniper may wish to sew the pockets shut or remove them. Laying on an object in a breast pocket is an old form of sniper torture. It is possible to read the date on a dime left in your pocket for an extended time. Place the pockets you removed from the front on the shirtsleeves and on the back of the shirt sew a pocket, made from an old sleeve that is accessible to your partner. This pocket will carry his partner's equipment while his partner will carry his equipment needed at the FFP. This prevents the snipers from diggin' around for equipment at the wrong time. On the cuffs of the sleeves, sew loops that will go over the thumb, or middle finger. This prevents the sleeves from sliding up as you crawl. Also sew in a crotch belt that will hold down the shirt while you crawl. The sniper will also want to ventilate the shirt by cutting a 6 inch by 18 inch hole across the back and sewing a small weave net into that area for ventilation. This net would not have any garnish tied to it, however the net placed over the top of the whole shirt back would. If the shirt is not dedicated then remove all items from the shirt pockets prior to the stalk. Once the shirt is modified for Ghillie use only with canvas, padding, extra pockets, garnish, etc., the sniper has a

very big piece of cloth on his hands. A thought on the canvas issue is that if you need that canvas and padding for crawling, then maybe you need more time spent on route selection and less time on ghillie suit construction.

The pants are constructed the same as the shirt in regards to pockets, canvas, netting etc. Sew in loops on the cuffs of the pants to tie into the boots so as to keep the pants legs down. Put on your shirt prior to sewing on the netting, this will prevent you from doubling the garnish and creating the fat butt look that really stands out on a stalk. I recommend that you do not extend the netting much below the mid calf area as this can create some problems in movement in the walking mode as your netting, garnish, etc decides to play tangle foot with you. It can be annoying and dangerous on the stalk when vegetation begins to wave about to indicate your presence.

Boots should be scuffed and browned up. Burlap threads may be glued to the boots, especially along the black soles. The black soles in any case must be subdued, as they do not fit in with nature. Sewn canvas, shoe goo and dirt, or just plain old paint may also be used on the boots as well as any other part of the ghillie suit. Again be aware of the possibility of a flame on situation. Also be aware that while shoe goo is great for many of the projects, it shines like a mirror in many circumstances, thus you must observe and modify while in construction, and this is also an on going project with the entire suit.

Gloves should be used during the stalk to protect the hands from hazards. They may be full gloves or fingerless gloves and should be removed for the shot. The gloves should be light colored and garnish may be attached or glued to the backsides. Remember that your trigger finger is important and that fingerless gloves do not protect the fingers! Another thought is that many go to the tactical section of their friendly neighborhood sniper store to buy stuff. This is cool for the store but remember that many of the items are really modified from another cheaper item, and that you can modify them as well.

Conclusion

As a sniper you must remain undetected during the entire mission. Not only on the objective, but enroute to and from the objective. In order to accomplish this, you must remain faithful to every principle of camouflage and concealment, and employ a wide variety of techniques and imagination with the utmost care. The greatest shot in the world is useless as a sniper if he cannot reach the objective undetected, wait for the target, and then engage the target unnoticed. Ignorance or failure to apply the principles of camouflage may cost the mission, and the life of the sniper.

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