Sniper Flash Cards Product Listing

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1) **Sniper Flash Cards** are used to memorize the holdover and windage for common objects such as military vehicles and doors. The user has a clear plastic sheet with a reticule printed on it and a pack of 62 cards. Each card has a picture on the front and it gives the wind speed. The user holds the reticule over the picture to measure the object, mentally calculates the holdover and windage, and then turns the card over to check his answer. The idea is to shuffle the cards and then time oneself on answering them all correctly, which is similar to how one studies vocabulary words in a foreign language.

2) **Mil-Dot One-Step** is a 3.75" square laminated card with a nomograph on each side. A nomograph is three parallel scales; the left one is inches, the right one is mils and the middle one is elevation on one side and windage on the other side. One observes an object of known size and measures how many mils of angle it subtends. Then one places a straight edge (a clear plastic straight edge is provided) between the left and right scales and reads the elevation and windage in MOA off the middle scale. Windage is for a 10 mph crosswind, so one must then scale the windage adjustment down or up for a 5 or 15 mph crosswind. The nomograph on one side is for small objects between 15 and 60 inches in height; the other side is for large objects from 60 to 120 inches in height; both can range objects out to 800 yards. All rifle calibers for which match ammunition is made are available for a 300-yard zero; the 7.62 NATO with either 168- or 175-grain bullets are available for a 300-meter zero; the .338 Lapua is available for a 1000-yard zero and can range objects out to 2500 yards, though it is 8.5" X 17". There is also a law enforcement version for the 5.56 and 7.62 NATO using a 100-yard zero. Both sides are for small objects from 15 to 50 inches, but one side is for level ground and one side is for a 15° angle. It is for close ranges out to 347 yards.

3) **Android App of Mil-Dot-One-Step** is the same thing as the nomograph except that one enters the information into one's Android smart phone and the elevation and windage adjustment is output. The Android can output the elevation and windage in either MOA or mils while the nomographs are only for MOA. Also, one can zero any rifle at 100 yards while the nomographs are only available at this short range in 5.56 and 7.62 NATO.

4) **Mortar Fire Control** is an Android app for the gunner and another app for the forward observer that allows them to get on target with their second shot; if the enemy is near an intersection or landmark, they can hit them with their first shot. Communication is encrypted and the forward observer need not know where the gunner is and thus cannot give him away if captured. The gunner app also has the capability for direct fire onto the rooftops of skyscrapers, which is very useful for taking out enemy MANPAD gunners.

5) **Quick-Draw Ka-Bar Sheath** allows one to carry a Ka-Bar (the 8" knife issued to U.S. Marines) concealed under a short jacket or business suit and draw it in under a second. I have a video of myself in a business suit drawing a Ka-Bar from full concealment in 0.7 seconds.

Proposed Products

1) **Fully Autonomous Turret, Anti-Sniper System.** The U.S. has recognized the urgent need of soldiers in urban combat to fire around corners and has developed the CornerShot, which is an M203 grenade launcher with a hinge to wrap around the corner of a building and a video screen for the gunner to aim the weapon without exposing himself to enemy fire. But they are thinking too small. I propose mounting a cannon in place of the forks on a telescoping forklift. The differences in arrival time of the sound of a gunshot to each pair among three microphones describe three hyperboloids, whose intersection gives the sniper's position.

   The U.S. Boomerang is inaccurate (only within 15° of the enemy sniper) and thus cannot be used for direct fire control. There are two reasons for this inaccuracy:

   a) The microphones are too close. This is because it is an afterthought to the HUMVEE and it had to be made very compact to stay out of the way of the gunners.
   b) The blunder-about-until-ambushed-and-then-call-in-an-airstrike way that Americans fight assumes that the enemy sniper could be anywhere around a 360° circle.

   On my weapon the microphones are widely spaced and move with the turret. Because the turret slews from side-to-side looking for the enemy, it can be assumed that the gun is already within 30° of the sniper when the shot is fired. This forward-leaning posture allows me to use only three (instead of seven) microphones and to be accurate enough that the gun can fire autonomously without fear of hitting innocent civilians.

   Note that my weapon identifies enemy snipers entirely by their sound signature and not by their hot gun barrels or muzzle flashes. There are four reasons for this:

a) FLIR is wildly expensive and beyond my capabilities.
b) FLIR is impressive on the firing range but it can become confused in a city that is on fire.
c) FLIR-sighted guns on American Bradleys and LAVs were devastating to the Iraqis, but those were simple conscripts wholly unaware that we can get heads shots at 800 meters in total darkness. More sophisticated soldiers would have blinded the FLIR with magnesium grenades and then fired their own weapons using Russian SOVA sights.
d) Killing someone because he has a warm gun is a bit like execution without trial because you do not really know if he was the one who recently fired on you. But if the shock waves from his bullets indicate that they are passing near you, then he is a combatant.

Thus, I feel that my audio-only system is more reliable than FLIR; it is also a lot less expensive. I will not say that it is easy but, given the funding, I can develop this weapon.

2) There are four **problems with firing a mortar at a MANPAD gunner** positioned on the roof top of a skyscraper:

a) If you miss, the shell falls to the street and explodes on innocent civilians.
b) Fin-stabilized shells have high ballistic coefficients and tend to sail over buildings.
c) Fin-stabilized shells wobble at their apex when fired at very high angles of elevation.
d) Conventional mortars do not have telescopic sights with illuminated reticules.

I propose a mortar with spherical shells that turn over smoothly at their apex and fall at a steep angle of descent due to their low ballistic coefficient. The mortar tube will have a low 3X or 4X scope with an illuminated reticule and mil-dashes all the way out to the edge of the field of view for the great holdover and windage needed. Most importantly, the shells will have an arm/disarm switch that uses a vertical speed indicator (VSI) similar to the device that keeps commercial airlines level in up drafts and down drafts; it disarms the shell in the event of a miss, thus sparing the innocent civilians in the street below.

This is easy; given funding, I can go into production in a matter of months.

If you have any questions, please go to the contact page of my website. More information about all of these products is available at my website.

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