Andrew C Vitale

Dr. Joshua Sunderbruch

ENG 103

Minor Project #3

October 12, 2023

How to Safely Use a Taser Device

Introduction:

A taser is a conducted energy device (CED) that is used for personal self-defense or by law enforcement agents as a non-lethal way to disable a suspect. Tasers emit fifty thousand volts of electricity which can temporarily disable a person "by causing involuntary muscle contractions" which allows a victim to escape or a law enforcement agent to handcuff the suspect (Holder, et al.). Tasers should not be confused with stun guns. The difference between stun guns and tasers is primarily the distance between the device user and the target (i.e., attacker). A stun gun requires the individuals to be near each other and requires direct contact of the stun gun to the target's body. While a taser can be used in a similar way to a stun gun (direct contact), it does not require the user to be near the target and can be fired at a target from fifteen to twenty-one feet away, depending on the device model ("Difference Between Stun Gun and TASER Device"). Another difference is the size and shape of the devices. The stun gun is typically a smaller handheld device that can resemble a flashlight while a taser is larger and can resemble a firearm (see Figure 1).

The following instructions will review the technical background, equipment and supplies, handling and using a taser, and special warnings associated with the user of tasers. Please

note, these instructions are the minimum necessary information for the general operation of a taser. The user should also become familiar with the specific instructions for the use of their specific taser model and, if possible, attending a training course is recommended. Additionally, the instructions are intended primarily for civilian use of a taser. Use of a taser by law enforcement may be different. The instructions will not review the use of a stun gun. These instructions should be read and understood prior to using a taser in a real-world scenario to avoid inadvertent injury to yourself or others. Once you have completed reading the instructions and practicing taser use, you will be able to use the taser safely and effectively in a self-defense scenario. Finally, before purchasing and using a taser, check your local rules and regulations to ensure compliance with local taser ownership laws.



Figure 1: Stun Gun and Taser from Difference Between Stun Gun and TASER Device

Technical Background:

A taser is a CED that is shot by a user by pulling a trigger on the device which causes compressed nitrogen to fire a set of two barbed electrodes (darts) connected to the

device's waveform generator by long thin wires. The barbed electrodes are made to pierce and attach to the clothing or skin of a target. Once both electrodes are attached, a pulsing arc of electricity is emitted from the taser to the target which causes uncontrollable and continuous muscle contraction for a specified period (e.g., twenty seconds) further causing the target to temporarily lose the ability to move (Kroll and Tchou). For a taser to disable a target, the barbed electrodes must be within two inches of the skin surface (Taser 101).

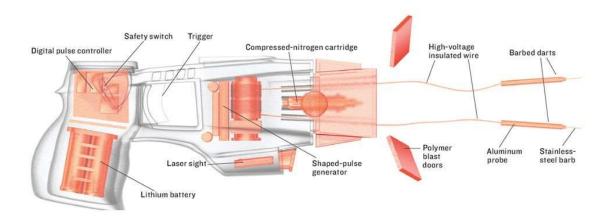


Figure 2: Taser Device Components from How a Taser Works

Equipment & Supplies:

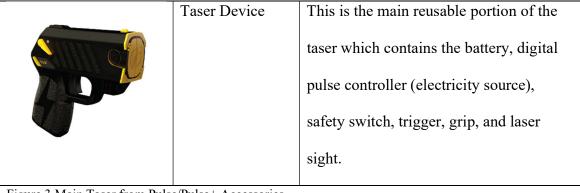


Figure 3 Main Taser from Pulse/Pulse+ Accessories

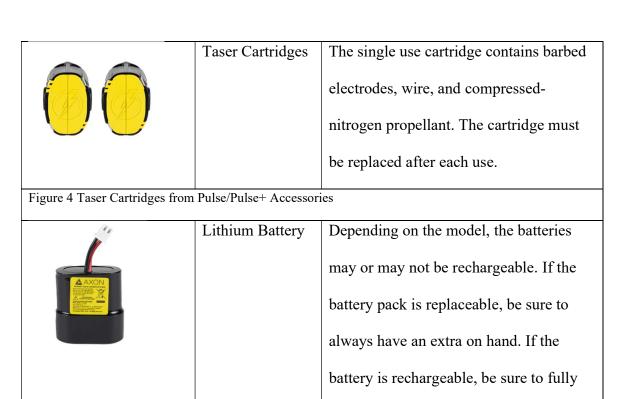


Figure 5 Lithium Battery from Pulse/Pulse+ Accessories, TASER M26 NiMH Battery Charger

charge the taser before use.

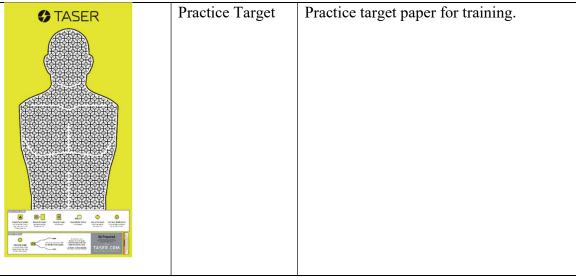


Figure 6 Practice Target from Pulse/Pulse+ Accessories

Instructions:

When beginning with an empty taser (without an attached cartridge), you may skip to step 2.

Warning: Do not place hands or other body parts directly in front of the taser cartridge at any time when handling the taser or serious injury may result. Always hold the taser and cartridge on the sides, top, or grip and never in the front of the cartridge doors.

1. Unload the Cartridge

If a cartridge is installed, unload the cartridge from the taser.

a. Point the taser in a safe direction away from people or animals.



Figure 7 Taser from Pulse/Pulse+ Accessories

b. Switch the safety to the SAFE position (safety is on).



Figure 8 Taser Safety from Pulse/Pulse+ Accessories

c. Press the cartridge release tabs on the sides of the taser and remove the cartridge.



Figure 9 Taser Cartridge from Pulse/Pulse+ Accessories

2. Install a fully charged battery, if needed.

Make sure the battery is fully charged if it is a rechargeable type of taser.

If the device has a battery pack, replace the old battery with a new one when needed.

- a. Unload the cartridge (see step 1).
- b. Press the battery pack release button.



Figure 10 Taser Battery Release from Changing the Battery Pack

- c. Remove the battery pack from the taser handle.
- d. Inspect the battery pack. Ensure the battery pack is in proper condition and working order. Ensure that there is no dirt or other material that will

interrupt the connection of the battery to the electric power source (Changing the Battery Pack).

e. Insert a new battery pack. Ensure the battery pack is fully inserted. The battery release buttons will click when fully inserted and the release button will be fully pushed out.

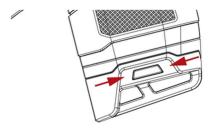
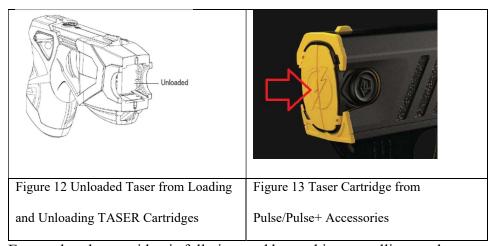


Figure 11 Taser Battery Release from Changing the Battery Pack

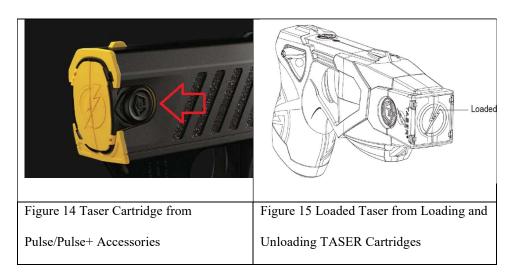
3. Loading a cartridge

- a. Point the taser in a safe direction away from people or animals (see step1a).
- b. Switch the safety to the down or SAFE position (safety is on) (see step 1b).
- c. Place a new cartridge into the empty slot on the taser muzzle until a click is heard and both cartridge release buttons are fully pushed out.

Warning: Keep your hand away from the front cartridge "doors" to avoid injury.



a. Ensure that the cartridge is fully inserted by pushing or pulling on the sides of the cartridge. If the cartridge does not separate from the taser when gently pulled/pushed, it is properly inserted and the taser is now loaded.



4. Aiming and firing the taser

a. Flip the safety to the up or unlocked position



Figure 16 Taser Safety from Pulse/Pulse+ Accessories

b. Hold the taser straight in front of you with both hands, one cupping the other to provide support and place one finger on the trigger. Ensure that the taser is level and not tilted, wherever possible (Aiming and Probe Placement).



Figure 17 Holding a Taser from Pulse/Pulse+ Accessories

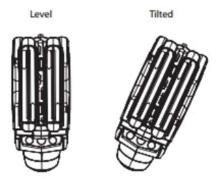


Figure 18 Level vs Tilted Taser from Aiming and Probe Placement

- c. Aim the laser (dot) at the desired area of the target's body. The laser dot is the approximate area where the topmost dart will land. The bottom dart will land roughly one foot below the top dart depending on the distance of the user from target (Taser 101).
 - i. The preferred areas of the body to aim if the target is facing you are the lower torso, or legs. If the target is facing away from you, the preferred areas of the body to aim are the back or buttocks.
 Warning: Avoid aiming at the head, eyes, throat, chest/breast/heart region, or area of preexisting injury which can cause irreversible damage.
- d. Pull the taser trigger to deliver the two darts to the target.

Note: Both darts must make contact with the target for the electrical current to be delivered (i.e., completing the electric arc). If you have made good contact, the taser darts will spark and a low popping sound will be heard. If the taser has not made good contact, the taser device will appear

to be sparking near the point where the taser connects to the cartridge and the popping sound will be louder (Taser 101).

5. Practice taser use.

As with anything, practicing will improve taser effectiveness and provide some comfort handling a taser before using it in a stressful real-world scenario.

a. Follow steps 1 through 4 on a practice target (see Equipment & Supplies section) to get comfortable with your taser before use.

Conclusion:

A taser can be a good option for non-lethal self defense for civilians when confronted with an attacker. As previously noted, once a decision to carry a taser for self defense is made, the taser owner is responsible for learning the proper storage and use of their specific taser model and for understanding the local regulations for taser ownership.

Before using a taser in a real-world setting, the user should become comfortable with its use by practicing. Tasers can be fired at a target from a safe distance which makes the taser a more desirable option over the stun gun.

Works Cited

- "Aiming and Probe Placement." *My Axon*, 1 Sep 2023,
 www.my.axon.com/s/article/Aiming-and-Probe-Placement?language=en_US.
 Accessed 6 Oct 2023.
- "Changing the Battery Pack." *My Axon*, 1 Sep 2023,
 www.my.axon.com/s/article/Changing-the-battery-pack?language=en_US.
 Accessed 6 Oct 2023.
- "Difference Between Stun Gun and TASER Device." *TBOTECH*, www.tbotech.com/stungun-vs-taser.htm. Accessed 6 October 2023.
- Holder, Eric H. Jr., Laurie O. Robinson, John H. Laub. "Police Use of Force, Tasers and Other Less-Lethal Weapons." *National Institute of Justice*, May 2011, www.ojp.gov/pdffiles1/nij/232215.pdf. Accessed 6 October 2023.
- Kroll, Mark W., and Patrick Tchou. "How a Taser Works." *IEEE Spectrum*, 28 Nov. 2022, www.spectrum.ieee.org/how-a-taser-works. Accessed 1 Oct 2023.
- "Loading and Unloading TASER Cartridges." *My Axon*, 24 Aug 2023, www.my.axon.com/s/article/Loading-and-unloading-TASER-cartridges?language=en_US. Accessed 6 Oct 2023.
- "Pulse/Pulse+ Accessories." *TASER Self-Defense*, www.taser.com/collections/pulse-pulse-accessories. Accessed 6 October 2023.
- "Taser 101." *You*Tube, 11 July 2018, www.youtube.com/watch?v=98YnP-WbJYs.

 Accessed 1 Oct 2023.