

Why Your Semi-Automatic Pistol May Fail Just When You Need It Most

1. Immutable Law of Physics: For every action, there is an equal and opposite reaction.
2. Action = projectile forced out of barrel. Reaction = firearm is forced rearward.
3. Semi-autos use reaction force to cycle slide.
4. Rearward movement of firearm must be impeded by mass of shooter, so only slide can move.
5. Any rearward movement of firearm takes energy away from slide.
6. Slide must carry enough momentum to move fully rearward, store energy in spring, and then release spring energy by moving slide fully forward. This is how semi-autos operate.
7. Rearward momentum of slide determined by energy of projectile. Energy of projectile described in foot pounds (ft lbs).
8. Formula: Projectile Energy $E = \frac{1}{2} m \cdot v^2$, where m = mass of projectile, v = velocity of projectile.
9. Projectile **weight** (not mass) measured in grains. 1 grain = 1/7000 pound.
10. Formula calls for mass. Convert projectile weight to mass: divide weight by 32.17 ft/s² (the acceleration due to the force of gravity).
11. Find the energy of your cartridge: Do the math

Example: Cartridge has 150 grain bullet, V = 1,000 feet per second.
 What is the energy in foot pounds?
 $E = \frac{1}{2} m \cdot v^2$
 $E = \frac{1}{2} (150 \text{ gr} \div 7000 \text{ gr/lb}) \div 32.17 \text{ ft/sec}^2 \cdot (1,000 \text{ ft/sec})^2$
 $E = 333 \text{ ft lbs}$

12. Many attacks involve close-quarters fighting, with distance rapidly closing.
13. You will react defensively when attacker bears down on you. There may be no time or physical ability to get your mass properly behind firearm.
14. Math does not lie. Semi-auto slide must receive adequate energy to function.
15. If firearm recoils rearward, slide will not receive energy to move fully rearward or forward; **gun goes click, not bang.**
16. Upon failure, semi-auto shooter must do drill:

When Semi-Auto goes Click, Not Bang:
TAP the magazine, to make sure it is seated.
RACK the slide to clear old cartridge and load new.
“TAP AND RACK”
 If that does not work, you have a big problem.

17. Most people are unable to perform this drill under extreme pressure. Semi-auto is now a brick.
18. Your semi-auto never jamming at shooting range is no indication of how it will function in an emergency.
19. All semi-autos share this vulnerability. Be prepared to TAP and RACK.
20. Firearm manufacturers are aware of this vulnerability. They are familiar with the math and physics.
21. Why don't they fix it? They don't have to. You bought their product.
22. You will need every tiny advantage possible, (and lots of luck) to prevail in an attack.
23. Advantages: Exposed hammer, ambidextrous controls, safety or decocker, double and single action capability, adjustable sights, adequate barrel length, no jamming (revolver), quality ammo, proper caliber, quantity of ammo, quality manufacturing, retention holster, well concealed, continuous training and practice, proper mindset.