

---

Subject: Unit Balance

Posted by [mahkra](#) on Sun, 02 May 2004 18:33:10 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

AircraftkillerNot one person has given a logical argument as to why "snipers" should destroy aircraft.

A RAMJET is a type of jet engine that has a MINIMUM operating speed of around 400mph, and no theoretical maximum speed. In practice, it is used at low supersonic speeds, up to about mach 5.

The fact that a ramjet is not usable at less than 400mph made the idea of a "ramjet rifle" ludicrous to me, because it's meaningless for a ramjet to be integrated into the rifle part. What it might mean, though, is that the bullets somehow have a micro-ramjet engine embedded inside them that accelerates them even more after they're fired. This idea may seem absurd, but C&C is a fantasy world with invisible tanks, so let's just assume we can do it. (Also, this explains the tracer -- a stream of exhaust from the ramjet engine.)

For purposes of comparison, the M40A1 sniper rifle has a muzzle velocity of 2550 feet per second, which is almost 1750 miles per hour. Some more modern sniper rifles are around 10% faster. I haven't thoroughly researched every rifle in the world, so there may be some that reach even higher velocities, but I'll just use an estimate of 2000 mph for a "real" sniper rifle.

So let's say the bullet is fired at 2000 mph. After it leaves the muzzle, the normal rifle's bullet will slow down from the air drag and fall to the ground from gravity, which is what gives the rifle an "effective range." For modern rifles I believe this number is around a couple thousand meters.

We should assume a ramjet rifle would have a comparable muzzle velocity. After the bullets are fired, though, the differences become extreme. While the normal bullet slows down, the ramjet round SPEEDS UP, possibly reaching speeds of around 3500 - 4000 mph before impact. This would extend the range of the rifle by an incredible amount and greatly increase the damage caused by a single shot.

Now, I ask you, would a bullet traveling at mach 5 be able to tear apart a lightly armored helicopter? Before you say no, remember what ACK said:

AircraftkillerBesides, you can't know that it won't work if you haven't even tried it before.

---