Cryogeneically Generated Compressed Gas Core Bullets

Track Code: CRANE-200117

Categories:
- Mechanical Engineering
- NSWC Crane

Keywords:
- Crane
- Materials and Manufacturing
- Projectile
- Weapons

Upon impact with a target, hollow point bullets flatten and expand outward creating an expanded area at the front of the bullet. This expanded area creates increased drag on the bullet and decelerates more quickly than a non-hollow point bullet. NSWC Crane has designed a gas core projectile that is an improvement on hollow point bullets and is capable of faster deceleration in a target which will lead to less opportunity for the bullet to leave a target and strike or ricochet into a bystander.

NSWC Crane has patented a design for a cryogenically generated, compressed gas core projectile and methods for manufacturing the projectile. The bullet is manufactured with a cavity ready to receive cryogenic material. Cryogenic material is inserted and allowed to come to thermal equilibrium, which create a high pressure gas core. The gas core of the projectile will be able to increase energy transfer once entering a target which should increase the lethality, improve stopping power, and enhance safety for non-targets. The gas core projectile is an improvement over hollow point bullets since its different aerodynamic performance alters how deformation of the projectile occurs after entry into a target. Higher pressure in the cavity will force the bullet to quickly expand and deliver all of its kinetic energy in a shorter distance.

People:
- Pienkos, Jules (Project leader)
- Gilliatt, Bart

Intellectual Property:

Application Date: (None)
Type: Utility Patent

Country of Filing: United States
Patent Number: 9,551,554
Issue Date: January 24, 2017

Contact OTC:

Purdue Office of Technology Commercialization
The Convergence Center
101 Foundry Drive, Suite 2500
West Lafayette, IN 47906

Phone: (765) 588-3475
Fax: (765) 463-3486
Email: otcip@prf.org