

# Caution Bulletin

## Worn Drop Catch Safety Results in Firearm Discharge

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June 21, 2007

2007-RL-HNF-0025

Tracking No: 563

**Summary:** Most modern pistols have a firing pin block/safety system designed to prevent firing of a chambered cartridge when/if the pistol is dropped muzzle first onto a hard surface. However, the mere presence of the system parts does not mean they are functional. Armorers must devise and conduct a test to prove the safety system is fully functional and not assume because it is present, it will work.

**Discussion of Activities:** On March 23, 2007 during an open range firearms training session, a weapon malfunction occurred at the Hanford Patrol Training Academy (PTA). During the 50-yard kneeling stage, a Security Police Officer (SPO) was in the act of drawing his Heckler and Koch (H&K) P7 when it may have caught on the holster causing the shooter to lose control of the weapon. Rather than trying to catch the weapon, the SPO let it drop (as taught). The weapon fell approximately 36 inches before the muzzle of the P7 struck the concrete floor in front of the SPO, and discharged. The SPO to the left of where the weapon malfunction occurred was struck on the right side of his face (cheek) by a copper fragment from the bullet jacket, but was not injured. Inspection of the P7 revealed a damaged drop catch safety (DCS) which allowed the weapon to fire when it hit the concrete deck.

**Analysis:** Most modern pistols have a firing pin block/safety system designed to prevent firing of a chambered cartridge when/if the pistol is dropped muzzle first onto a hard surface. If the pistol has this safety system, it works by placing a strong, hard, blocking cylinder, plate or block in the forward path of the firing pin. This prevents the pin from traveling forward from inertia after being dropped. Without some block to stop forward momentum, there may be sufficient inertial energy to detonate a chambered cartridge.

Prior to this incident, armorers checked that the DCS was in place and properly spring loaded to stay positioned to block the firing pin. The operation of this safety device is essential to prevent a dropping-discharge of the pistol. In the case of the P7 that fired after being dropped, the DCS was worn about 0.040 inches. That 0.040 inches was enough to allow the firing pin inertial movement to fire a chambered round after the shooter dropped the pistol about 30 inches onto a concrete floor.

This event demonstrates the mere presence of the parts does not mean they are functional. Armorers must devise and conduct a test to prove that the safety system is fully functional and not just present.

**Recommended Actions:** Armorers must perform a test beyond visual inspection to check the operability of the DCS. One such test involves locking the slide of a cleared pistol to the rear or removing the slide of a cleared pistol from the frame. In both instances, the purpose is to observe the breech face of the slide. Using a punch or machined rod just smaller than the diameter of the firing pin, the armorer pushes the rear of the firing pin forward. The armorer observes whether or not the firing pin can be pushed past the DCS and extend out of the breech face. Any protrusion of a firing pin indicates the DCS is damaged and must be replaced. This “Go/No Go” test is a “Go” if there is no protrusion of the firing pin from the breech face. It’s a “No Go” if the firing pin protrudes beyond the breech face. Firing pin protrusion may indicate worn, failed, or missing firing pin block safety system parts and will need to be replaced immediately. It is important that an inspection (to include this test) be conducted periodically to ensure the safety of the P7.

If you are at all unsure about your pistol and its particular firing pin block safety system and/or how to properly test its functionality - contact the manufacturer and request further information.

**Cost Savings/Avoidance:** Not Evaluated

**Work Function:** Safeguards and Security

**Hazards:** Firearms and Explosives

**ISM Core Functions:** Analyze Hazards, Develop/Implement Controls

**Keywords:** Drop Catch Safety; Heckler and Koch (H&K) P7

**Originator:** Fluor Hanford, Inc. Submitted by Bruce W. Cameron, (509) 376-2351, Commandant, Patrol Training Academy

**Contact:** [PHMC Lessons Learned; \(509\) 372-2166; e-mail: PHMC\\_Lessons\\_Learned@rl.gov](#)

**References:** EM-RL--PHMC-PATROL-2007-0001