

# Cartridge-Actuated Device and Propellant-Actuated Device Accountability

By 1LT Letherio R. Jones, Jr.

Combat aviation brigades (CABs) routinely face administrative and logistical challenges in managing cartridge-actuated devices (CADs) and propellant-actuated devices (PADs). These devices, critical to aircraft egress systems, require continuous oversight due to their limited shelf life and strict accountability procedures. Failures in tracking and reconciliation contribute to overdue documents, inaccurate property records, and complications during aircraft transfers. To maintain readiness, brigades must ensure accountability in record-keeping and comply with the 5-day turn-in guidelines in Army Regulation (AR) 700-28, *Ammunition Management Policy* (Department of the Army [DA], 2020, pp. 16, 25, and 26). These recurring failures make one point clear: Current CAD/PAD management processes are insufficient, and meaningful policy and technological reforms are required.

## Background

The average shelf life of a CAD/PAD ranges from 5 to 15 years, requiring units to routinely monitor expiration dates, order replacements, install new devices, update property records, and return expired items. To manage this, aviation units have shifted from manual logs to digital systems, which are intended to improve accuracy and streamline workflows. The Army Aviation community now uses several platforms, including the Aviation Configuration and Notification (ACN) system, the Global Combat Support System–Army (GCSS–Army), the Modernized Standard Army Ammunition System (SAAS-MOD), and Total Ammunition Management Information System (TAMIS).



A U.S. Army Soldier prepares 7.62mm ammunition for an aerial gunnery exercise from a UH-60 Black Hawk helicopter at Novo Selo Training Area, Bulgaria. U.S. Army photo by CPT Regina Koesters.

The ACN platform, for instance, generates airframe-specific alerts for upcoming expirations, helping maintainers schedule replacements in advance. When a CAD/PAD nears expiration, units request replacements via TAMIS and inform their Property Book Officer (PBO) to update records in GCSS–Army. However, these systems were never designed to manage the CAD/PAD lifecycle end-to-end. The ACN's maintenance projections, for example, are not aligned with the ammunition request lead times in TAMIS. This misalignment frequently results in extension requests for expired items while units await new components. Once received, expired items must be turned in to the Ammunition Supply Point (ASP) using a DA Form 581 or electronic (e) 581, *Request for Issue and Turn-In of Ammunition*, to complete the accountability cycle (DA, 2021).

This fragmented process demands excessive manual effort and creates recurring gaps in ordering, documentation, and turn-ins. During preparations for an Operation Atlantic Resolve rotation in early 2025, the 1st Armored Division (1AD)

CAB attempted to resolve backlogged CAD/PAD documentation. Despite efforts to conduct large-scale turn-ins, missing initial-issue files and gaps in digital records forced the use of manually produced documents, delaying reconciliation. This resulted in more than 50 delinquent CAD/PAD items as units rotated into European Command. Further research revealed that other formations were experiencing similar discrepancies, underscoring a systemic issue. Such inaccuracies generate false reports that units are retaining expired munitions, raising concerns about regulatory compliance and control of sensitive Class V (ammunition) items.

## Case Study

In this paper, two cases are presented to provide a greater understanding of these challenges.

The first case involves an aircraft the 1AD CAB received through a lateral transfer. The aircraft arrived without the required CAD/PADs installed. The gaining battalion submitted an e581 through TAMIS to request replace-



The 1-229 Attack Battalion conducts SPIKE non-line-of-sight missile testing at Yuma Proving Ground, Arizona. U.S. Army photo by SGT Brandon Bruer.

ments, but TAMIS flagged the request as delinquent. The losing unit had never turned in the CAD/PADs previously issued to that aircraft, and because the system manages them as a one-for-one swap, the gaining unit's valid request triggered a delinquency for an item it never possessed.

In a second case, a battalion completed the required turn-in of expired CADs/PADs, but the documents remained unreconciled with the ASP due to a Department of Defense Identification Code (DODIC) mismatch. The battalion turned in MH92 components, but the ASP was tracking the items under the newer WB53 DODIC. These designations can change over a component's multi-year lifespan. Because of normal personnel turnover, neither the ASP staff nor the new battalion ammunition managers were aware of the historical DODIC change. As a result, the turn-in could not be cleared, even though the battalion followed the correct procedures.

These cases illustrate how the systems provide mismatched views of reality. The ACN accurately documents when CAD/PADs are removed from an aircraft but it doesn't track their final disposition at the ASP. Simultaneously, GCSS-Army may still list the old parts on a commander's property book, while TAMIS may show

the ammunition-management side of the process is closed. Together, these systems capture only slices of the lifecycle, leaving no single, synchronized picture.

## Outlook

The challenges described are not the result of unit-level shortcomings but the predictable outcome of a system built on disconnected platforms. The solution is not more standard operating procedures or inspections, but Enterprise-level action. An effective path forward could involve leaders at the Army Aviation and Missile Command and other aviation decision-making entities partnering with industry to design an integrated, automated CAD/PAD lifecycle-management architecture.

Such a system should consolidate data from ACN, TAMIS, SAAS-MOD, and GCSS-Army to automatically reconcile removals, issues, and turn-ins, providing a single authoritative record. In a modernized system, a maintainer documenting a CAD/PAD removal in ACN would trigger automatic updates to the ASP's records, the PBO's property book, and the unit's TAMIS account. This automation would eliminate false delinquency alerts and ensure accountability is maintained, regardless of personnel turnover. Human involvement would be limited to oversight and

exception handling, not routine data entry and troubleshooting.

## Conclusion

Munitions accountability is essential to aviation readiness. The recurring difficulties in CAD/PAD management stem from these structural shortcomings, not unit-level execution. As the case studies show, disconnected systems and inconsistent data flow create unavoidable gaps. While disciplined turn-in practices and internal coordination remain necessary, they only mitigate the symptoms of a fragmented process.

Long-term improvement requires Enterprise-level modernization to develop an integrated system that synchronizes data across all platforms. Until then, units will continue to devote excessive time and effort to managing a process that should be largely automated. Modernizing CAD/PAD accountability is not simply an administrative refinement; it is a readiness imperative.

### Biography:

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