

ICAP III: New Era for Marine Prowlers

By LtCol Marty Moore

May 13, 2010, marked the beginning of a new era for Marine Corps Airborne Electronic Attack (AEA). Marine Aircraft Group 14 hosted a rollout ceremony to commemorate the long awaited arrival of the Improved Capability (ICAP) III EA-6B *Prowler* aircraft.

Marine Tactical Electronic Warfare Squadron Two (VMAQ-2) received it's first EA-6B "ICAP" in 1977, and began the transition from the EA-6A to a fully EA-6B fleet. Detachment X-ray of VMAQ-2 stood up as the first Marine Corps detachment to fly the EA-6B *Prowler* and made the first Marine Corps EA-6B *Prowler* deployment in late 1978. The Marine Corps received the ICAP II EA-6B in 1989 and has only seen block upgrades since.

The first ICAP III *Prowler*, Bureau Number (BuNo) 163889, arrived at Marine Corps Air Station Cherry Point, N.C., on April 7, 2010. VMAQ-4 was designated as the first squadron to receive the ICAP III and currently has three ICAP III aircraft. VMAQ-4 is continuing its transition training at the squadron level. Initial transition training was provided by the MAG-14 Fleet Introduction Team (FIT) with the

assistance of many other key players. Both VX-23 and VX-9 contributed with subject matter expert knowledge and insight to the unique improvements within the ICAP III weapon system. Northrop Grumman, Naval Air Weapons Center, Point Mugu, California, and PMA-234 EA-6B Program also assisted in providing the Marines with knowledge of the ALQ-218 digital receiver set, future block upgrades for the ICAP III, and logistical support.

Aircrew training on the ICAP III began in late March 2010, just prior to the first aircraft arrival. This training focused on a basic operation overview, system initialization, and MIDS/Link-16 operation (Multifunctional Information Distribution System), among other more technical aspects of the new digital receiver set. With the ICAP III simulators (front seat and back seat) arriving at MCAS Cherry Point during 2009, the MAG-14 FIT was able to utilize the back seat simulator for transition training from the beginning. The final events for aircrew transition involve two flights in the aircraft, again focusing on basic operation, initialization of the system, and basic tactical application.

Maintainer training also began in March 2010. Center for Naval Aviation Technical Training Unit from Whidbey Island, Washington, provided a three-week career level course of instruction to the Electronic Counter Measures (ECM/6386) and Communications/Navigation/Radar (CNR/6313) MOS Marines from VMAQ-4. Additionally MAG-14 FIT and Naval Air Technical Data and Engineering Service Command Cherry Point developed training, with the assistance of PMA-234, for introduction to ICAP III for the remaining EA-6B maintenance MOSs. The other Marine VMAQs will undergo the same training as their squadrons begin receiving the ICAP III aircraft.

The ICAP III rollout ceremony took place onboard MCAS Cherry Point on May 13, 2010, and was attended by MajGen James F. Flock, Commanding General of 2nd Marine Aircraft Wing; MajGen Carl B. Jensen, Commanding General of Marine Corps Installations East; Col Russell A. C. Sanborn, commanding officer of Marine Aircraft Group 14, and Mr. Steve Hogan, Vice President, Northrop Grumman In-

formation Operations and Electronic Attack Integrated Product Team. Also in attendance were numerous Northrop Grumman project managers, engineers, ALQ-218 developers, Crane project managers and engineers, and the USMC EA-6B leadership and stakeholders including U.S. Navy Capt John Green and his PMA-234 team. The ceremony was highlighted by comments from Col Sanborn, LtCol David A. Suggs, Commanding Officer of VMAQ-4, and Steve Hogan. Mr. Hogan also presented a commemorative plaque to Col Sanborn and LtCol Suggs.

"The ICAP III is the system that will adapt to the threats we're facing now and in the future,"



A view of the *Prowler* front cockpit of the ICAP III jet.

Improved Capability III for the EA-6B

Mr. Hogan said. He further stated, “The ICAP III will be the cornerstone of the Marine Corps’ vision for the future of EW and defines the MAGTF EW scenario.” The ceremony was an opportunity for the agencies and industry behind the ICAP III to officially present the newest capability to the Marines.

The ICAP III includes a new ALQ-218 digital receiver set and additional computing power which provides accurate threat emitter geo-location and makes advanced signal targeting possible. The ICAP III also fuses Link-16 and Multi-mission Advanced Tactical Terminal data into the displays, greatly enhancing the war-fighting capability and the situational awareness of the aircrew. Also included in the upgrade are new cockpit displays, improved systems connectivity, and improved system reliability.

The Marine Corps has purchased 16 ICAP III kits. The ALQ-218 kits are built by Northrop Grumman and are installed at Fleet Readiness Center – Southeast during a one-year process. The Marine Corps will reach its PAA of 20 aircraft through additional transfer of aircraft from the U.S. Navy concluding in FY12. VMAQ-4 is the first squadron to transition to ICAP III and will receive its fifth aircraft in August. The other three squadrons will transition in the next two years. The Marine Corps plans to fly the *Prowler* until 2019.

VMAQ-4 intends to utilize the fall Weapons and Tactics Instructor (WTI) course 1-11 as the training venue to take tactics, techniques and procedures beyond what the Marines have been able to do with the ICAP II EA-6B. The current plan will continue to use WTI as a training venue for each successive squadron as they transition to ICAP III.

With the Navy getting its first ICAP III in 2005, the Marine Corps has been waiting and planning to get its hands on this latest and greatest capability. “Now that the Marine Corps has this jet, we’re going to take it to the next level,” Col Sanborn said. When you first look at the ICAP III *Prowler*, you’re not going to notice any big differences. That’s because the true capability improvement



The EA-6B ICAP III/BuNo 163889, sits amid the 50 state flags during the recent ICAP III Rollout Ceremony held at MCAS Cherry Point, NC.

is what’s inside. This is the first major improvement in weapon systems for Marine *Prowlers* since the Marine Corps first flew the ICAP II aircraft in 1989.

As has been said before in other articles written about Electronic Warfare (EW) and more specifically MAGTF EW, “Controlling the electromagnetic spectrum (EMS) at the time and location of our choosing helps to ensure battlefield commanders are successful at all levels of operation.” The ICAP III is the next step in achieving that freedom of movement in the EMS to do just that.

Upon arrival of the first ICAP EA-6Bs in 1977, then-LtCol Royal N. Moore stated, “With the ICAP ... we can do a better job.” Perhaps no one knows that better than MajGen Moore, now retired, who is known today for his actions that directly advanced electronic warfare capabilities. He would go on to retire as a major general after 39 years of service to Marine aviation, and is the namesake of the annual Royal N. Moore Award, presented to the Marine Tactical Electronic Warfare Squadron of the Year.

His statement still applies to the Marine Corps today with the ICAP III.

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Note: LtCol Moore, an EA-6B pilot, currently serves as the MAG-14 XO after serving as the EA-6B Fleet Introduction Team (FIT) Lead for the past year. He had two tours with VMAQ-1 in Iraq and one tour with II MEF (Fwd) as the MEF EWO.

A Unique Mission and Capability

The EA-6B *Prowler* is a twin-engine, mid-wing jet aircraft that protects friendly aircraft from radar detection and hostile fire. The cockpit has four seats, for a pilot (NA) and three Electronic Countermeasures Officers (ECMOs).

- Designed for carrier and advanced base operations.
- Jams enemy radar and deploys high-speed, antiradiation missiles.
- Collects and disseminates tactical electronic signals from the battlefield.
- Combines long-range, all-weather capabilities with advanced electronic countermeasures.



LCpl Erich Fahrenholz, a Plane Captain in VMAQ-4, ‘catches’ the first ICAP III to arrive in Cherry Point.