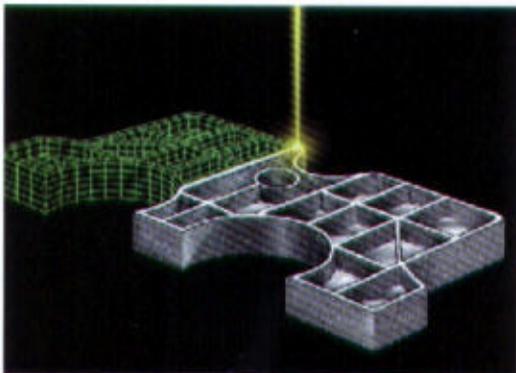




JO1 Joshua M. Hudson

The Shape of Things to Come

The Office of Naval Research, Arlington, Va., announced the development of a process that allows aircraft structural components to be manufactured layer by layer. As depicted below, titanium powder is injected through a nozzle into a laser beam and fused onto a surface which a computer-aided design program moves back and forth horizontally to achieve the desired construction. Three wing components of the F/A-18E/F *Super Hornet* have been selected as candidates for the new technology, which is projected to save \$50 million based on the purchase of 400 aircraft.



Hovering Osprey Sighted at Pentagon

On 8 September a V-22 *Osprey* landed on the lawn alongside the Pentagon to demonstrate the future of tilt-rotor technology. The Secretary of Defense, Chief of Naval Operations and visitors from foreign militaries were among the many attendees who witnessed the flight and received tours of the up-and-coming aircraft.

Marine Pilots Return Home

A 19 July ceremony at Arlington National Cemetery, Va., honored Marine Capt. Robert A. Holt and John A. Lavoo, who were killed while flying over Vietnam in an F-4B *Phantom* in 1968. Their remains were repatriated in 1994 and identified in April 1999. Each service has established a POW/MIA hotline to keep families informed of remains recovery operations. Call 800-443-9298 (Navy); 800-847-1597 (Marine); or 202-647-6769 (civilian).

Columbia Gets a Facelift

Columbia, the oldest of four orbiters in NASA's fleet, departed Kennedy

Space Center, Fla., on 24 September for a scheduled inspection and modification period at Boeing's facilities in Palmdale, Calif. Work includes installation of a multifunctional electronic display system—the same full-color, flat-panel displays that were installed on shuttle *Atlantis* in 1998—as well as enhanced space-to-space orbiter radio and wireless video modifications and preparations for an enhanced global positioning system. *Columbia* is scheduled to return to Kennedy in July 2000.

In the Gulf

Navy and Air Force aircraft once again fired precision-guided munitions against Iraqi targets on 10 August. F/A-18 *Hornets* and F-14 *Tomcats* struck antiaircraft artillery sites and radar sites in response to repeated antiaircraft fire and a sur-

Martin-Baker Milestone

On 14 September, NAS Patuxent River, Md., received Martin-Baker Aircraft's 1,000th Navy Aircrew Escape System ejection seat for display at the Test Pilot School Museum to commemorate the more than 1,100 ejection seats delivered to the Navy in Martin-Baker's 50 years of operation. Ten days later, the company announced plans to establish its first U.S. plant in Pennsylvania. Right, this dramatic photo captures a moment in Martin-Baker history, as test pilot George Aird ejects from a *Lightning* fighter in 1962.



face-to-air missile directed at aircraft patrolling the no-fly zone.

Theodore Roosevelt (CVN 71) and embarked Carrier Air Wing 8 departed the Arabian Gulf to return home after being relieved by

Constellation (CV 63) on 28 August. During the six-month deployment, *Roosevelt* participated in NATO Operation Allied Force in Kosovo and enforced the no-fly zone over southern Iraq.

Mishaps

On 30 July, an AH-1W *Sea Cobra* of Marine Light Attack Helicopter Squadron 267 crashed aboard MCAS Camp Pendleton, Calif. The aircraft was damaged but the aviators survived.

An F-14B *Tomcat* of Fighter Squadron 101, NAS Oceana, Va., operating on board *George Washington* (CVN 73) impacted the ramp during night qualifications on 4 August. The crew escaped serious injury.

An Air Test and Evaluation Squadron 9 AV-8B and its pilot were lost when the *Harrier II* crashed into terrain in California on 30 August.

On 16 September, a Fleet Composite Squadron 8 UH-3H *Sea King* crashed while operating aboard NS Roosevelt Roads, P.R. The aircrew was rescued, but the aircraft was destroyed.

A Navy Flight Demonstration Team F/A-18 *Hornet* crashed near Moody AFB, Ga., on 28 October. LCDr. Kieron O'Connor and Lt. Kevin Colling were killed.

SH-60R Rolls Out

Lockheed Martin Federal Systems celebrated the rollout of the SH-60R prototype at its Owego, N.Y., facility on 5 August. Following a six-month flight test period, including its first flight at Lockheed Martin in October and additional testing at NAS Patuxent River, Md., the helo will enter low-rate initial production in March 2000. Part of the Helicopter Master Plan, the SH-60R upgrade will include a glass cockpit, in which both pilot and copilot stations will be fully mission capable; and enhanced sonar, radar, electronic support measures and weapons capability.



Lockheed Martin Federal Systems

History Comes Alive at Lakehurst



By Mary Dempsey and Cdr. Leonard Mueller

Poised in front of a jet blast deflector, an A-4B *Skyhawk* is linked via a bridle to a catapult shuttle. An F-4J *Phantom II*, in line with the fresnel lens, engages the cross-deck pendant with the purchase cable playing out of the deck sheaves. An A-7B *Corsair II* is towed via an NT-4 tow bar attached to a TA-75A tractor. No, these scenes aren't part of a documentary on the history of Naval Aviation. They describe the new layout of the air park aboard Naval Air Engineering Station Lakehurst, N.J.

Preparations for the final touches to the exhibit began in October 1998 when the weather-wearied, all-gray aircraft on display at the park were removed to be refurbished and painted in operational paint schemes. Six members of the Air Department took on the job of bringing to life the glory days of years past when the planes served the nation with valor.



Their efforts during the six-month restoration will surely make a lasting impression on visitors to Lakehurst. As AS2 James Ramnytz stated, "It's good to know that after we are reassigned, we left something behind for everyone to enjoy and that we brought back some of the Navy's proud heritage."

Ms. Dempsey is part of the Air Department staff and Cdr. Mueller is the Air Operations Officer aboard NAES Lakehurst.

Top, an A-7B *Corsair II* and an F-4J *Phantom II*, middle, are displayed in lifelike settings; below, the A-7 and an A-4B *Skyhawk* welcome visitors to the park.



Deactivated

VQ-5 Sea Shadows





A 4 June 1999 ceremony at NAS North Island, Calif., marked the deactivation (officially 30 July) of Fleet Air Reconnaissance Squadron (VQ) 5 after almost eight years of service. Cdr. Spencer L. Miller was the last CO of the *Sea Shadows*.

VQ-5 was established on 15 August 1991 at NAS Agana, Guam, to operate the carrier-based ES-3A *Shadow*, an electronic reconnaissance version of the S-3A *Viking*. The ES-3As assumed the carrier-based electronic reconnaissance role in preparation for the 1991 retirement of EA-3B *Skywarriors* from carrier duty. Like the S-3B, the ES-3A also served as an aerial tanker. VQ-5 initially was equipped with two S-3As—which arrived on 10 November 1991—for pilot and crew training while the squadron awaited delivery of its eight ES-3As. The first *Shadow* arrived at

VQ-5 on 8 May 1992.

VQ-5 deployed its aircraft with carrier air wings in detachments of two ES-3As each. The first major deployment for the squadron, Det Alpha, began in November 1993 on board *Independence* (CV 62), forward deployed to Japan.

Deployments of Dets Bravo and Charlie followed on other carriers.

Between August 1994 and January 1995, VQ-5 moved to NAS North Island as NAS Agana was prepared for closure. The move put the squadron closer to the carrier air wings on the West Coast, easing the work-up cycles for the squadron's detachments. In addition, Det 5 was established on 1 October 1994 as part of Carrier Air Wing 5 at NAF Misawa, Japan, in order to support the carrier permanently based in Japan—first *Independence*, followed in 1997 by *Kitty Hawk* (CV 63). Another detachment, Det D, was formed at NAS North Island in 1998.

During more than five years of operations, the *Sea Shadows*' five detachments completed 15 major

deployments to the Western Pacific and Arabian Gulf on board *Independence*, *Kitty Hawk*, *Constellation* (CV 64), *Nimitz* (CVN 68), *Carl Vinson* (CVN 70) and *Abraham Lincoln* (CVN 72). Highlights included contingency operations off Korea in 1994 and Taiwan in March 1996. All of the detachments participated in Operation Southern Watch, the enforcement of the no-fly zone over southern Iraq.

VQ-5's last detachment, Det C on board *Carl Vinson*, supported Operation Desert Fox strikes against Iraq in December 1998. Det C's return home in May 1999 marked the Navy's last operations with the ES-3A. Because of the expense of upgrading the ES-3A to make its mission systems interconnective with those of other signals intelligence-capable aircraft, the Navy decided to retire the ES-3A and rely on land-based aircraft such as the EP-3E *Aries II*. Before its deactivation, VQ-5 transferred its eight ES-3As into war reserve storage at the Aerospace Maintenance and Regeneration Center, Davis-Monthan AFB, Ariz.

Rick Burgess wrote the VQ-5 article.