

Aerospace World

By Peter Grier

F-22 Passes New Milestones

The Air Force's F-22 fighter development program in late summer chalked up several notable successes.

On July 30, USAF aircraft and crews working at Edwards AFB, Calif., completed the first aerial refueling of the Raptor. The operation featured the first F-22 aircraft—Raptor 01—and a KC-135 flying at 20,000 feet, said officials.

This feat came on top of the first flight, June 29, of the second Raptor airframe. The first flight of Raptor 02 came a full 11 days ahead of schedule.

The F-22's chief test pilot, Paul Metz, was at the controls when the aircraft lifted off from Dobbins ARB, Ga., at 11:29 a.m. During the hour-long flight he performed flying-qualities maneuvers, including bank-to-bank rolls, landing gear retraction and extension, and flight at varied engine settings.

"We worked hard to incorporate the lessons we learned on Raptor 01, and we succeeded," said Tom Burbage, F-22 Team Program Office general manager.



USAF photo by TSgt. Joe Beia

Following the Aug. 7 bombing of two US embassies in Africa, USAF forces transported injured US personnel to medical facilities in Germany. Here, an airman from Ramstein AB, Germany, stands guard at a C-141 from McGuire AFB, N.J., after its arrival at Nairobi IAP, Kenya. Among the 12 Americans killed was Air Force SMSgt. Sherry Lynn Olds of Panama City, Fla., and Air Force civilian employees Jean R. Daliza of Kenya and Arlene Kirk of South Bend, Ind.



The first aerial refueling of an F-22 Raptor took place July 30 at 20,000 feet and an air speed of about 345 mph over Edwards AFB, Calif. A specially instrumented KC-135 handled the test, which included multiple contacts to determine aircraft/boom capability. This KC-135 can measure fuel flow and stress loads on the boom and has an automatic disconnect feature.

"This airplane was brought to flight much more easily and efficiently than the first."

The Air Force is hoping to complete 183 flight test hours with these aircraft by the end of November.

USAF General Dies in Crash

Lt. Gen. David J. McCloud, the commander of Alaskan Command and 11th Air Force, died July 26 in an aircraft crash at Ft. Richardson, Alaska.

McCloud perished while piloting his personal YAK-54, a Russian-built, single-engine acrobatic aircraft. Also killed in the crash was a civilian passenger, Lewis Cathrow of Alexandria, Va. The aircraft crashed in a paratrooper drop zone just east of Anchorage.

The cause of the crash was unknown. It is currently under investigation by the National Transportation Safety Board.

In his Alaskan post, McCloud was responsible for more than 21,000 USAF active duty, Guard, and Reserve military members.

McCloud and his passenger had taken off from Elmendorf AFB, Alaska, where McCloud kept the airplane.

He took the Alaskan post in December. Before his transfer, McCloud had worked for the Joint Chiefs of Staff as director for force structure, resources, and assessment.

F-16 Fires on Iraqi Radar

An Iraqi targeting radar lingered a little too long on a British Tornado fighter June 30—and a USAF F-16 fired a HARM missile at the ground-based site in return. The weapon missed after the radar blinked off, and Secretary of Defense William S. Cohen said he hoped the incident was an isolated one that did not presage increased tensions in the region.

The radar “painting” of the British airplane followed a period of relative calm in the skies over the Iraqi theater of operations. US intelligence had reported no recent movement of Iraqi air defense batteries or other military actions that might be considered a prelude to a new confrontation. Though the US military presence has been reduced in recent months, there are still 20,000 American troops in the region. Some 200 US and allied warplanes continue to patrol the skies above Saddam Hussein, flying between 80 and 120 sorties a day.

The firing of the AGM-88 HARM was standard operating procedure under the strict rules of engagement that govern allied flights. If a targeting radar locks

Senate Panel Rejects Jones

On July 22, the Senate Armed Services Committee rejected President Clinton's nominee for Secretary of the Air Force, Daryl L. Jones. The panel deadlocked 9–9 on a vote on whether to forward Jones' name to the full Senate—effectively dooming the nomination.

The defeat marked the end of a long and torturous vetting process for Jones, who would have been the first African–American to serve in the top Air Force civilian post. “This was a good man who had all the qualities to make a fine Air Force Secretary, and I regret this committee did not give the full Senate a chance to vote on him,” said SASC Chairman Sen. Strom Thurmond (R–S.C.), a Jones supporter.

Florida state Senator Jones is a graduate of the Air Force Academy and a former active duty fighter pilot. He came in for heavy criticism from some former members of the Reserve fighter squadron he joined at Homestead ARB, Fla., after leaving the service.

His critics said that he was a dangerous pilot in the Reserves, almost running out of fuel on one occasion and scraping his F-16's tail on two others. They also accused him of embellishing his flight record and of wearing flight wings to which he was not entitled.

Jones faced additional questions about lobbying fees he received from a Florida bond firm and pressure he put on enlisted troops to buy Amway products he was selling.

Supporters noted that he was his Reserve unit's first African–American pilot and said prejudice may have played a part in his undoing.

on to an aircraft for even a brief time, a radar-guided anti-aircraft missile may soon follow. Pilots are allowed to quickly strike preemptively in such cases for their own protection.

Such incidents last only a few moments. “It was a split-second type of operation, a lock on of the radar for only seconds at a time,” said Cohen in a Pentagon briefing. “So, this decision [to fire] was made on that kind of a split-second decision-making status.”

The targeted June 30 patrol consisted of four British aircraft and six American jets. The Iraqis said the missile hit a drinking water reservoir near Basra.

B-2 Nuclear Readiness Rated High

The B-2–equipped 509th Bomb Wing, Whiteman AFB, Mo., has won top grades in a series of inspections that measured its readiness to carry out its nuclear mission.

The wing passed its Nuclear Operational Readiness Inspection and Nuclear Surety Inspection with flying colors, even though the wing is not slated to reach full operational capability until next January.

Among other things, the drills involved scrambling six B-2s at once and flying two simulated missions to replicate a nuclear strike. Though all flights were carried out without nuclear weapons on board, such weapons were loaded before takeoff to show the wing could accomplish the task within an allotted timeline.

Lockheed, Northrop Call It Off

It looks like the wave of mergers that swept through the defense industry in the early and mid-1990s is finally over. Lockheed Martin gave up on its planned \$8 billion purchase of Northrop Grumman on July 16, giving in to Pentagon concerns that the deal would have stifled weapons competition.

Lockheed Martin and Northrop Grumman officials negotiated with the government for months in an effort to allay

USAF photo by SSgt. Angela Stafford



Retired Air Force MSgt. Jacob J. Chestnut, who spent 18 years as a US Capitol policeman after his military career, was buried at Arlington National Cemetery July 31. Chestnut, and fellow Capitol policeman John M. Gibson, were killed by a lone gunman who opened fire within the Capitol July 24.

antitrust worries. Reports indicated that they even went so far as to offer to split off their combined defense electronics businesses in a separate firm, in which the new Lockheed–Northrop would have maintained some kind of limited financial stake.

But even though defense electronics was the area government trust busters were most worried about, the actions were not enough for the Justice Department, which had sued to block the merger in March.

Joel Klein, head of Justice's antitrust division, praised the decision to abandon the merger. "This means that the US government and the American people will continue to receive the highest possible quality of military products and services," he said in a statement.

Lockheed Martin and Northrop Grumman thus tripped over a sudden change in government sentiment. Beginning in 1992, Pentagon officials had urged defense contractors to consolidate, saying the future market would not support numerous players. Between 1992 and 1997 some \$55 billion worth of defense mergers took place.

Lockheed was one of the main acquiring firms. By buying such historic suppliers as Martin Marietta and Loral, it has grown to be the Pentagon's No.

Tobacco-Related Disabilities

Outraged veterans and their political supporters prevailed on Congress to reverse course and restore VA disability benefits to former military members who are or may become afflicted with smoking-related ailments.

As matters now stand, veterans with such illnesses will not be branded as having engaged in "willful misconduct" and will not be hampered in filing a compensation claim.

Congress' full-scale retreat was contained in a provision attached to the IRS Re-structure and Reform Bill, which passed the House and Senate. President Clinton signed the measure into law July 22.

The elimination of tobacco-related disability benefits for vets and the use of the "willful misconduct" condemnation sailed through Congress earlier this year as a provision attached to the popular highway bill. The cut in veterans benefits was used to offset some of the increased cost of roads, bridges, and other new projects highly prized by many lawmakers.

Then, however, came a storm of protest. Typical of the veterans' complaints was this one from Doyle E. Larson, Air Force Association president: "We cannot say to our veterans with smoking-related illnesses that you are not allowed to receive compensation for your disability. When the day comes that a veteran has poison ivy, will we reject providing care for that individual because [he] should have worn long sleeves?" Said Harry R. McDonald Jr., national commander of the Disabled American Veterans: "Anti-veteran elements in the Congress have subverted the democratic process that Americans have valiantly fought to protect—often at great sacrifice to their health and well-being."

On July 8, the Senate narrowly defeated a measure that was seeking to force an open debate on Congress' action. Unwilling to face any more heat, congressional leaders attached the correction to the IRS reform bill, a popular measure guaranteed to sail to approval.

1 supplier and is well-positioned for continued growth even without the addition of Northrop.

The future of Northrop is now less certain, but company officials vowed that

they would remain viable on their own.

"While we believed the merger was in the best interests of our constituencies, Northrop Grumman can and will continue as a strong, independent

competitor," said Kent Kresa, chairman, president, and chief executive officer.

DoD IDs Vietnam "Unknown"

In the wake of the identification of Air Force 1st Lt. Michael J. Blassie as the Vietnam veteran buried in the Tomb of the Unknowns, it now appears unlikely that the famous monument in Arlington National Cemetery will ever receive another fallen hero.

The mitochondrial DNA testing used to identify Blassie from a handful of bones is a new process that was unavailable when he was interred, unidentified, during a Memorial Day ceremony in 1984. MtDNA does not decay after death, unlike the nuclear DNA often tested in criminal cases. It is passed down only by the mother and changes little from generation to generation, making definitive matches relatively easy.

"It may be that forensic science has reached the point where there will be no other unknowns in any war," said Secretary of Defense William S. Cohen. "So we have to look very carefully at where we go from here."

Blassie was reburied in Jefferson Barracks National Cemetery near St. Louis at the end of two days of solemn ceremonies. Participants included Cohen, Gen. Michael E. Ryan, Air Force Chief of Staff, and a flight of F-15s from the Missouri Air National Guard.

Since the end of the Vietnam War, US scientists have identified the remains of 496 Americans. Some 2,087 sets of remains are still officially listed as unknown.

Panel Warns Missile Threat Is Close

On July 15, a blue-ribbon congressional panel of experts said they believe Third World nations such as North Korea, Iran, and Iraq are developing long-range missiles much faster than US intelligence estimates have said. The US could be threatened by such weapons in only five years, concluded the bipartisan commission, which was headed by former Secretary of Defense Donald H. Rumsfeld.

The Central Intelligence Agency still maintains that such a threat will not emerge until 2010, at the earliest. The distinction is both politically and militarily important, as it could heat up the national debate over development and procurement of ballistic missile defenses.

Clinton Administration plans now call for development of a limited protective

Nerve Gas Story Takes Another Hit

Secretary of Defense William S. Cohen announced July 21 that the Pentagon's review of Operation Tailwind found no evidence to support allegations that the operation was mounted to hunt down American defectors or that US special operations forces used Sarin nerve gas during the operation.

CNN and *Time* magazine made the charges on "NewsStand: CNN & *Time*," a joint CNN/*Time* news program that first aired June 7, 1998. The same claims later were published in a *Time* magazine article.

"We studied scores of documents about Operation Tailwind and conducted interviews with soldiers and officials at all levels of command," Cohen said. "We found no evidence to support the CNN/*Time* assertions on defectors or the use of Sarin nerve gas. No document—military order, after-action report, briefing paper, or official military history—mentions pursuit of US defectors as Tailwind's mission."

DoD added that, while Sarin was stored in Okinawa in 1970, there is no evidence the nerve gas ever was sent to or used in Vietnam or Laos, as the broadcast claimed.

Cohen added, "All Americans should know the 16 men who conducted this mission were heroes, but they have been hurt by this report."

The bombshell CNN report, titled "Valley of Death," started out to be a big scoop for CNN's April Oliver, producer of the program, and Peter Arnett, who lent his name to the enterprise, but it blew up in their faces.

On July 2, after an internal investigation, CNN news group chairman Tom Johnson retracted the story and apologized to viewers, colleagues at *Time*, and to the US military personnel involved in Operation Tailwind. Concurrently, CNN fired Oliver and another producer but gave Arnett only a reprimand.

shield by 2000 that could be deployed within three years, if the government gives the go-ahead. Some Republicans in Congress have long argued for a more ambitious schedule.

Rumsfeld commission members said that their estimate differed from that of US intelligence agencies because they had access to a broader array of information than individual analysts typically would. They also weighed the data in the manner of senior government officials, as opposed to technical experts.

The panel emphasized the role played by Russia and China in exporting missile technology and warned that North Korea and other nations do not follow the lengthy development and testing schedules common in US missile development.

North Korea, for instance, is already working hard on a missile that could reach Alaska or Hawaii, said the panel's report. Iran already has the technical capability to make long-range weapons, it noted.

THAAD Faces Cloudy Future

Following five straight test failures, the Pentagon is considering restructuring the missile portion of the Theater High Altitude Area Defense system.

Among its options: bringing in another contractor to compete with Lockheed Martin on the \$15 billion effort, which is widely seen as a forerunner to a larger

National Missile Defense program.

Such a re-jiggering could delay the program for years and would likely provide ammunition to critics who say the technology for defending even small units of US troops against ballistic missile attack is far from mature.

The THAAD program is supposed to be an improvement on the Patriot missile system, which was used as a defense against Iraqi Scuds during the Persian Gulf War. It is intended to produce technology that will defend concentrations of US military forces against both short- and long-range ballistic weapons.

In the most recent THAAD failure, a test missile failed in May to hit its target over the New Mexico desert. Lockheed Martin officials say there is no systemic cause for the string of defeats. Each has been caused by different problems.

Quake Rocks Turkish Air Base

A series of earthquakes that rippled through Turkey in late June and early July damaged all 1,500 buildings at Incirlik AB, Turkey. The estimate for repairs: around \$10 million, according to base officials.

Still, the US military installation was fortunate, compared to many surrounding civilian communities. The earthquakes—the strongest of which measured 6.3 on the Richter Scale—killed 144 people and left 60,000 homeless.

Twenty-three Americans were hurt, none severely. About 20 of the 200 US families who lived off base lost their homes.

Most of the damage sustained at the air base involved broken beams, windows, plaster, and other relatively minor damage. The chapel, fitness center, and exchange were more heavily hit.

The night of the first earthquake, US personnel and local employees worked hard to get a commissary and shopette ready to handle an influx of needy customers. "People have been working miracles here," said Col. Brad Higginbotham, 39th Support Group commander. "We had Turkish employees with great losses and more damage than we'll know report for duty without being called in."

When the shopette opened it took the place of the heavily damaged exchange. With electricity, and thus air-conditioning, unavailable, ice was a hot seller.

"We sold a thousand bags in the first few hours," said Bob Smith, Army and Air Force Exchange Service general manager.

DarkStar Resumes Flying

Air Force officials expressed relief at the resumption of testing of the DarkStar Unmanned Aerial Vehicle.

Flight testing resumed June 29 when the second model of the high-altitude endurance UAV took to the skies over Edwards AFB, Calif.

"We are very pleased with DarkStar's flight," said Col. (sel.) Thomas Di Nino, head of the Reconnaissance Mission Area Group at the Aeronautical Systems Center, Wright-Patterson AFB, Ohio.

The DarkStar program has been on hold for more than two years, following the crash of vehicle No. 1 during its second flight April 22, 1996.

The latest air vehicle flew for 44 minutes, completing preprogrammed basic flight maneuvers. It was a successful flight that was fully autonomous from beginning to end, thanks to precise guidance from Global Positioning System data.

The No. 2 UAV underwent a series of changes in response to the first's crash. Among them was the installation of a system that hikes the nose wheel on takeoff, for a more positive angle of attack and, hence, improved lift.

With its low observable characteristics, the DarkStar UAV is intended for aerial reconnaissance in highly defended areas. Its resumption of testing

comes at a crucial time, as it is under heavy attack in Congress.

Explosion Damages DMSP Satellite

On July 1, a Defense Meteorological Satellite Program satellite was slightly damaged when an external battery used in testing exploded.

The incident occurred after electrical power was applied to the battery, which was used in testing electrical subsystems, according to a statement from Air Force Space and Missile Systems Center, Los Angeles AFB, Calif.

Air Force officials said that one contractor employee was injured in the mishap. The worker was treated at a local hospital and then released. The satellite's launch, currently set for late 1999, is not expected to change.

The satellite is the first of the 5D-3 DMSP configuration. Its upgrades include an improved sensor suite, enhanced power system, and larger solar array.

ABL Passes Key Milestone

The Airborne Laser passed an important milestone June 26 when Air Force acquisition officials gave it the green light to begin finalizing the system's design.

This authority to proceed to the next stage of the program also clears the way for the Air Force to release the rest of the ABL's 1998 development funds.

Producing a laser module with a specified amount of power, and within certain size and weight restrictions, was the key to the decision. Each operational anti-missile ABL aircraft will carry 14 of the modules, with each supposed to weigh less than 3,000 pounds.

Other requirements that the ABL program office had to meet include demonstrating an ability to track a missile in flight (completed last year in tests at the Army's White Sands Missile Range, N.M.) and demonstrating an understanding of how the atmosphere might affect a laser shooting across hundreds of miles to its target.

"The [ABL] program is following the acquisition streamlining path we mapped out in 1996," said Principal Deputy Assistant Secretary of the Air Force for Acquisition and Management Darleen A. Druyun. "The program is right on cost and schedule."

The next big hurdle under the acquisition schedule will be reached in 2001, as the program aims toward the test of a missile shutdown in 2002.

USAF Looks at Tactical Use of Lasers

On June 26, the Air Force announced the beginning of a new effort to study the possible use of lasers in tactical aircraft.

The Directed Energy Applications for Tactical Airborne Combat study will have two primary objectives. The first will be to identify promising ways in which directed energy weapons, such as lasers, can be used from airborne platforms in tactical roles. The second will be to figure out what the Air Force needs to do, technologically, to develop such weapons.

"We'll be looking exclusively at directed energy concepts at a range of power levels, to address weapon and mission-support applications," said study leader Bill Thompson of the Air Force Research Laboratory's Directed Energy Directorate at Kirtland AFB, N.M. "We'll also be considering a variety of airborne mediums, from manned aircraft to remotely piloted vehicles."

The Air Force interest in lasers as weapons dates back at least 20 years. In the early 1980s, USAF researchers conducted experiments with the Airborne Laser Laboratory, a laser-carrying KC-135 that shot down five air-to-air missiles and a target drone. This work has blossomed with the Airborne Laser.

Overall direction for the effort will be provided by retired Gen. Ronald R. Fogleman, former USAF Chief of Staff. The first phase is expected to take three months, with a final report due next February.

"The final results of the study will hopefully identify and justify high-payoff concepts for future warfighting," said Thompson.

Britain Plans C-17 Purchase

The British government has announced that it intends to acquire four C-17 airlifters, or equivalent aircraft, to meet new short-term air mobility requirements. If the Globemaster wins this contract—highly likely, given that no "equivalent aircraft" really yet exists—it would mark the first international sale for the C-17.

The UK Ministry of Defense announced the prospective purchase as part of its July 8 release of a new Strategic Defense Review.

The review calls for the restructuring of the nation's current Joint Rapid Deployment Force into several Joint Rapid Deployment Forces, each with its own land, sea, and air components. This

strategic expansion would give Britain the capability to handle two Bosnia-sized confrontations simultaneously, according to the study.

A Boeing spokesman said, "We think the C-17 meets the needs for [the British] rapid reaction force, and we look forward to working with the UK to make this happen."

B-1B Pushes Swing-Wing Envelope

A flight test program now under way at Edwards AFB, Calif., is studying the B-1B's flying qualities when its wings are set at a 45-degree sweep. The point of the Intermediate Wing Sweep Flight Test Program is not just theoretical: With its wings set at such an angle, Lancers can fly at airspeeds that are more compatible with other types of aircraft in a strike force package.

With a 45-degree angle "we also expect to see slightly improved efficiency at cruise altitudes," said project leader Capt. Duncan Dversdall, 419th Flight Test Squadron.

Currently, the adjustable wings of the B-1B are cleared for use at settings of 15, 25, 55, and 67.5 degrees. When moving wings between these positions, pilots must now observe strict maneuvering limits and transition the wings from one setting to the next without stopping.

Clearing a 45-degree wing sweep envelope will require a structured, step-by-step flight process.

"We don't just go out and fly to the edge of the envelope," said Keith Keller, the program's lead engineer. "We start flight testing at a certain altitude, air-speed, etc., determined to be safe by previously collected flight test data or simulation. We then expand the envelope, step by step."

Final flight in the program is scheduled to take place in mid-September.

Florida Wildfires Burn Eglin

Wildfires that ravaged tinder-dry Florida in early summer burned Eglin AFB in the process, flaming across at least 2,200 acres of the installation by early July.

The constant threat of new fires kept Eglin wildland fire managers in a constant state of alertness. Resources came from all parts of the base.

"To monitor the fires from the air and to direct the firefighters, we've used Eglin Aero Club aircraft. The 40th Test Squadron flew their UH-1 with a 'Bambi' bucket and dropped water on the fire, and members of the 796th Civil Engineer Squadron helped the firefighters on the

perimeter of the fires," said Lt. Col. Mike Newberry, Air Force Development Test Center environmental management director.

The northwest panhandle of Florida, where Eglin is located, received less than two inches of rain from April through June. Temperatures averaging 95 to 100 degrees have only compounded the problem.

"It's taking its toll, but we're managing," said Newberry.

AU Launches New Air and Space Basic Course

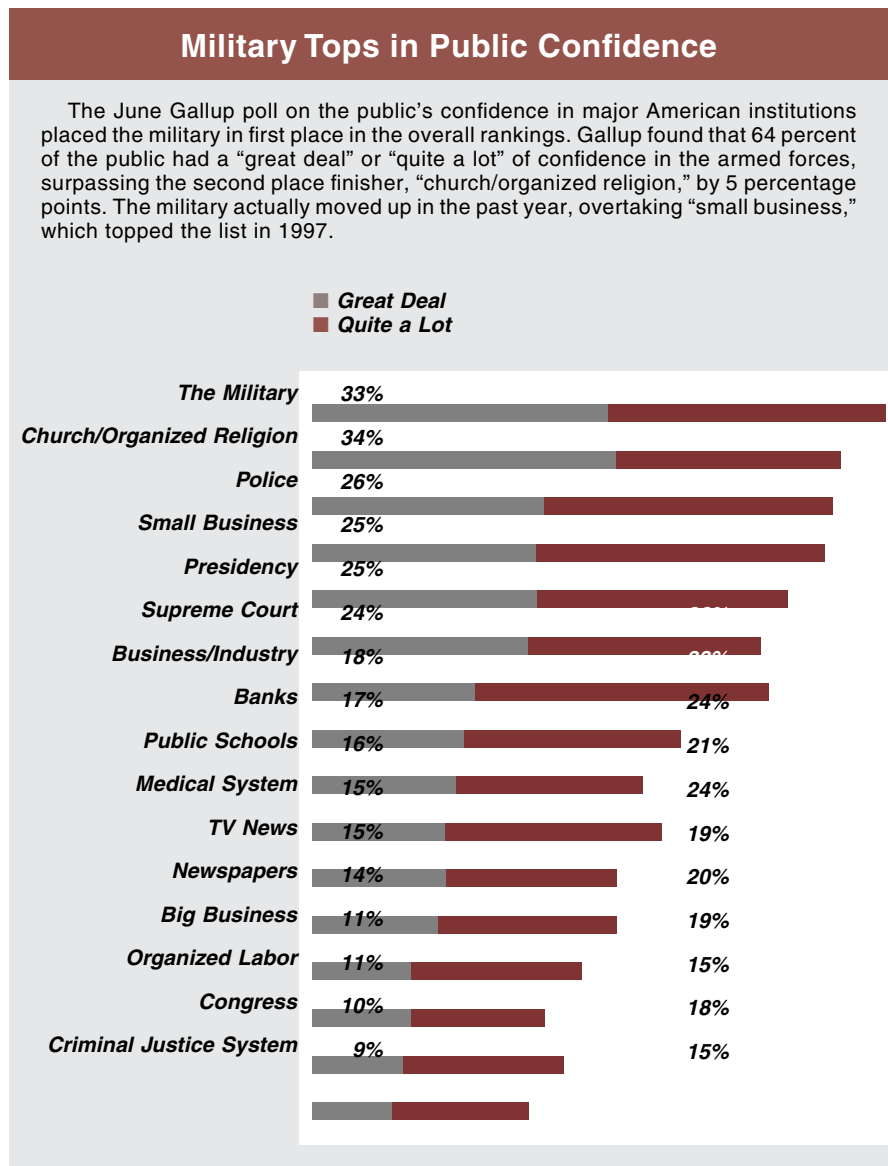
USAF officially opened its new Air and Space Basic Course School July 20 at Air University, at Maxwell AFB, Ala., with Class 98-A. This initial test class comprised 312 students, said Air Force officials.

The course was the brainchild of

retired Gen. Ronald R. Fogleman when he was USAF Chief of Staff. Following some 15 months of planning and preparation, the ASBC launched its seven-week test course.

"Over the past decade, we've lost the knowledge of what it means to be an airman," claimed Gen. Lloyd W. "Fig" Newton, commander of Air Education and Training Command, which operates AU. "This course will bring all of our newly commissioned officers together and create a common understanding of how all the elements of our force fit together."

ASBC's curriculum aims to strengthen knowledge of and adherence to Air Force core values and core competencies. Besides presenting concepts like air and space superiority and agile combat support, ASBC is centered around Professional Military Education,



potentially becoming an integral part of officer PME.

The general said, "It will help move us away from being Air Force specialists and move us much closer to being warfighting strategists."

Navy Commissions New Carrier

The US Navy on July 25 commissioned USS *Harry S. Truman*, the eighth Nimitz-class carrier to sail in the American fleet.

The nearly 100,000-ton nuclear-powered warship, designated CVN-75, "came alive" during a ceremony at Pier 12, at Norfolk Naval Base, Va. The event drew numerous dignitaries, including Secretary of Defense William S. Cohen and President Bill Clinton, who served as the

principal speaker at the commissioning ceremony.

Harry S. Truman joins the Navy's Atlantic Fleet with a crew of 3,300. An air wing of 2,500 personnel will support the 80 aircraft on board.

Other ships of the class are *Nimitz*, *Eisenhower*, *Vinson*, *Theodore Roosevelt*, *Lincoln*, *Washington*, and *Stennis*. These will be joined by at least two more Nimitz-class carriers, *Reagan* and an unnamed warship, CVN-77.

EFX 98 Gets Under Way

For two weeks this month, the 366th Wing, Mountain Home AFB, Idaho, deploys to Eglin AFB/Hurlburt Field, Fla., to play a major role in the 1998 Expeditionary Force Experiment, or EFX 98.

EFX is a new series of annual experiments that explore emerging technologies, procedures, and requirements to strengthen Air Force competencies.

This year's experiment will integrate improved command-and-control capabilities with an air expeditionary force to validate how the Air Force will look and fight in the next century, according to Air Force officials.

The wing will provide the largest contingent of people and aircraft. The scenario calls for the unit to deploy to "Southwest Asia" and halt an armored attack.

FAA Honors AWACS Members

Two members of the 552d Air Control Wing from Tinker AFB, Okla., were

Senior Staff Changes

RETIREMENTS: Brig. Gen. Theodore C. **Almquist**, Brig. Gen. James R. **Beale**, Brig. Gen. John S. **Boone**, Maj. Gen. James S. **Childress**, Maj. Gen. Clinton V. **Horn**, Gen. James L. **Jamerson**, Maj. Gen. George P. **Lampe**, Gen. Walter **Kross**, Lt. Gen. Eugene D. **Santar-elli**, Maj. Gen. Ervin C. **Sharpe Jr.**, Brig. Gen. William E. **Stevens**.

NOMINATIONS: To be **Lieutenant General:** Maxwell C. **Bailey**, Charles R. **Heflebower**.

To be **Major General:** Kenneth W. **Hess**.

To be **Brigadier General:** David A. **Wagie**.

CHANGES: Lt. Gen. (sel.) Maxwell C. **Bailey**, from Dir., Ctr. for Ops., Plans & Policy, USSOC, MacDill AFB, Fla., to Cmdr., 21st AF, AMC, McGuire AFB, N.J. ... Brig. Gen. Paul L. **Bielowicz**, from Cmdr., Defense Supply Ctr. Columbus, DLA, Columbus, Ohio, to Cmdr., San Antonio ALC, AFMC, Kelly AFB, Texas ... Brig. Gen. John L. **Clay**, from Vice Cmdr., SMC, AFMC, Los Angeles AFB, Calif., to Dir., Space & Nuclear Deterrence, Asst. SECAF for Acq., Pentagon ... Lt. Gen. Russell C. **Davis**, from Vice Chief, NGB, Pentagon, to Chief, NGB, Pentagon ... Lt. Gen. Phillip J. **Ford**, from Cmdr., 8th AF, ACC, Barksdale AFB, La., to Dep. CINC, USSTRATCOM, Offutt AFB, Neb. Brig. Gen. (sel.) Michael A. **Hamel**, from Mil. Advisor to the Vice President, Washington, to Vice Cmdr., SMC, AFMC, Los Angeles AFB, Calif. ... Lt. Gen. John W. **Handy**, from Cmdr., 21st AF, AMC, McGuire AFB, N.J., to DCS, Instl. & Log., USAF, Pentagon.

Lt. Gen. (sel.) Charles R. **Heflebower**, from Asst. C/S, Ops./Log. Div., SHAPE, NATO, Belgium, to Vice Cmdr., PACAF, Hickam AFB, Hawaii ... Maj. Gen. Charles R. **Henderson**, from Dir., Ops. & Tng., Air & Space Ops., USAF, Pentagon, to Dir., Strategic Plans & Policy, USSTRATCOM, Offutt AFB, Neb. ... Lt. Gen. Nicholas B. **Kehoe III**, from Dep. Chairman, NATO Mil. Cmte., Brussels, Belgium, to IG, OSAF, Pentagon ... Brig. Gen. Michael S. **Kudlacz**, from Dep. Dir., Ops. & Tng., Air & Space Ops., USAF, Pentagon, to Dir., Ops. & Tng., Air & Space Ops., USAF, Pentagon ...

Lt. Gen. Ronald C. **Marcotte**, from Dir., Strategic Plans & Policy, USSTRATCOM, Offutt AFB, Neb., to Cmdr., 8th AF, ACC, Barksdale AFB, La. ... Brig. Gen. (sel.) David L. **Moody**, from Dir. of Inspections, OSAF, Pentagon, to Dep. Dir., Ops. & Tng., Air & Space Ops., USAF, Pentagon ... Brig. Gen. (sel.) Quentin L. **Peterson**, from Chief, Checkmate Div., DCS, Air & Space Ops., USAF, Pentagon, to Dir., Trnsp., DCS, Instl. & Log., USAF, Pentagon ... Maj. Gen. (sel.) Harry

D. **Raduege Jr.**, from Dir., C⁴, USCENTCOM, MacDill AFB, Fla., to Dir., C² Sys., NORAD and USSPACECOM and Dir., Comm. & Info., AFSPC, Peterson AFB, Colo. ... Maj. Gen. James E. **Sandstrom**, from Dir., C², Air & Space Ops., USAF, Pentagon, to PAD (Intl. Affairs), SECAF, Pentagon ... Brig. Gen. Mary L. **Saunders**, from Dir., Trnsp., DCS, Instl. & Log., USAF, Pentagon, to Cmdr., Defense Supply Ctr. Columbus, DLA, Columbus, Ohio ... Brig. Gen. (sel.) Robert P. **Summers**, from Dep. Dir., Ops., AFSPC, Peterson AFB, Colo., to Vice Cmdr., Sacramento ALC, AFMC, McClellan AFB, Calif. ... Maj. Gen. Eugene L. **Tattini**, from Cmdr., Sacramento ALC, AFMC, McClellan AFB, Calif., to Cmdr., SMC, AFMC, Los Angeles AFB, Calif. ... Brig. Gen. Michael P. **Wiedemer**, from Vice Cmdr., Sacramento ALC, AFMC, McClellan AFB, Calif., to Cmdr., Sacramento ALC, AFMC, McClellan AFB, Calif. ... Lt. Gen. (sel.) John L. **Woodward Jr.**, from Dir., C² Sys., NORAD and USSPACECOM and Dir., Comm. & Info., AFSPC, Peterson AFB, Colo., to Dir., C⁴ Sys., Jt. Staff, Pentagon.

SEA CHANGES: CMSgt. Gary R. **Broadbent** to Air National Guard Bureau, Pentagon.

SENIOR EXECUTIVE SERVICE RETIREMENTS: Joseph K. **Black**, Carl F. **Kiele**, Robert A. **Lach**, Florence W. **Madden**, Charles V. **Van Norman**.

SES CHANGES: Donald L. **Cazel II**, to Dir. Financial Mgmt., San Antonio ALC, Kelly AFB, Texas ... Grover **Dunn**, to Assoc. Dir. of Maintenance, Instl. & Log., Pentagon ... Don W. **Fox**, to Dep. General Counsel, Civilian Personnel & Fiscal Law, General Counsel, OSAF, Pentagon ... Sandra G. **Grese**, to Dep. Dir., Personnel Force Mgmt., USAF, Pentagon ... Jacqueline **Henningsen**, to Assoc. Dir. for Modeling, Simulation, & Analysis, Air & Space Ops., USAF, Pentagon ... Joseph T. **Kammerer**, to Dep. Asst. Secy., Cost & Economics, Fin. Mgmt., OSAF, Pentagon ... Margaret **Leclaire**, to Dep. Dir., Global Combat Support Sys., Instl. & Log., USAF, Pentagon ... Albert F. **Lowas**, to Dir., AF Base Conversion Agency, Arlington, Va. ... Charles F. **McBrearty**, to Dir., Materials Technology, Patrick AFB, Fla. ... Terry L. **Neighbor**, to Assoc. Dir., Air Platforms, AFRL, Wright-Patterson AFB, Ohio ... Clifford E. **Rhoades Jr.**, to Dir., Mathematics & Geoscience, Office of Scientific Research, Bolling AFB, D.C. ... David Jan **Steele**, to Program Dir., Strategic & Nuclear Deterrence C², ESC Det. 5, Peterson AFB, Colo. ...

honored July 21 for rescuing a lost private pilot.

The Federal Aviation Administration awarded Capt. Craig Wilson, 552d Operational Support Squadron, and Maj. Conrad Namiesniowski, 965th Airborne Air Control Squadron, certificates of appreciation for their role in saving the pilot's life.

On May 15, the two were aboard an E-3 Sentry aircraft en route to an air show in Montreal. As the aircraft commander, Wilson was monitoring VHF Guard, an emergency frequency used by pilots. He heard a distress call and monitored the conversation between the FAA and the pilot, who was on her first solo cross-country flight. Hazy conditions caused the pilot to become disoriented and unable to navigate, said Wilson.

Wilson opened communications with the pilot as the air surveillance officer identified the aircraft and entered into the computer the coordinates for the airport she was trying to find. Namiesniowski, the Sentry's mission crew commander, reported to Wilson that the pilot was 50 miles from her intended destination and was flying directly away from it. Wilson then gave her vectors to get her headed in the correct direction and guided her to the landing.

Relief Flights Reach New Guinea

The first US shipment of relief supplies for Papua New Guinea, devastated by a tidal wave, arrived July 23 on an Air Mobility Command C-141 Starlifter.

The aircraft, from the 8th Airlift Squadron, McChord AFB, Wash., delivered

20,000 pounds of medical supplies, clean water, tents, cots, and plastic coverings to Red Cross workers who distributed the supplies to villages in the region.

A 30-foot-high tidal wave struck the northern coast of the island nation July 17. More than 2,000 people were confirmed dead and thousands more were listed as missing, presumably sucked out to sea when the wave receded.

Once the supplies reached the island, the Australian Defense Forces flew the supplies to the remote areas where they were needed most. Smaller Australian C-130s were able to land on short and remote runways near the hardest hit areas.

News Notes

- The first production T-6A Texan II primary training aircraft took to the skies July 15 at Raytheon Aircraft's Beech Field in Wichita, Kan. USAF and the US Navy will eventually train all new pilots in the Texan II, with the Air Force scheduled to activate the new aircraft at Randolph AFB, Texas, in April 1999.

- In St. Louis July 8 Boeing workers began assembling their firm's entry in the Joint Strike Fighter competition. Some 190 workers are putting together the airplane's first piece—the 16-foot-long forebody.

- The Air Force took delivery of its first Joint Direct Attack Munition June 24 at the Boeing JDAM facility in St. Charles, Mo.

- The 3d Wing from Elmendorf AFB, Alaska, won the crown of Best Air Mobility Wing at this year's Rodeo competition at McChord AFB, Wash. The 3d's victory denied 19th Air Refueling Group's quest for a "three-peat" in the wake of its 1994 and 1996 victories.

- The C-17 Globemaster *Spirit of Berlin* delivered a sculpture commemorating the fall of the Berlin Wall, a gift from the US to Germany, in time for an unveiling by former President George Bush in a July 2 ceremony. The sculpture, produced by New Mexico artist Veryl Goodnight, is a bronze depicting five horses racing to freedom as they jump over the remains of the graffiti-covered wall.

- On July 8, Raytheon Systems held a rollout ceremony for the first production AGM-154A Joint Standoff Weapon produced under the first low rate initial production contract awarded in February 1997.

- The World War II Memorial design concept won final approval from the

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The first production T-6A Texan II flew for the first time in July. The Raytheon turboprop trainer lifted off the runway at about 97 mph and rose to 13,000 feet. The Joint Primary Aircraft Training System program calls for more than 700 T-6As, split between the Air Force and the Navy, to be built through 2014.

National Capital Planning Commission July 9. The design, which features granite arches opening onto a central memorial plaza, will be constructed on a site at the east end of the Reflecting Pool on the National Mall, between the Lincoln Memorial and the Washington Monument.

- Damage to two unoccupied trailers, which were part of a cosmic-ray observatory, at the US Army's Dugway Proving Grounds, Utah, caused by an Advanced Cruise Missile AGM-129 during a test, happened partly because the University of Utah placed the observatory in an area reserved for hazardous operations, and the missile's communications suite was not configured adequately, according to a USAF accident report released July 10. However, the missile had completed all test objectives, officials stated.

- Defense officials unveiled a mural celebrating the 25th anniversary of the All Volunteer Force during a Pentagon ceremony July 7. The mural, which hangs outside the office of Undersecretary of Defense for Personnel and Readiness Rudy DeLeon, is composed of photos illustrating such military virtues as courage, honor, and teamwork.

- MSgt. Tim Brown, 30th Security Forces Squadron, Vandenberg AFB, Calif., received the Airman's Medal June 26 for saving three people in

the waters off Vandenberg's coast on Christmas Day.

- An F-16 assigned to the 514th Test Squadron at Hill AFB, Utah, crashed on the flight line June 19. The pilot ejected safely.

- In a surprise ceremony at a Rotary Club luncheon in Gilmer, Texas, former Army Air Corps Lt. Richard Potter finally received the Distinguished Flying Cross he had earned as a B-17 navigator while flying missions over Germany. The presentation was arranged by a fellow Rotarian and retired Air Force pilot Steve Dean.

- Denise Daly, a secretary with Air Force Materiel Command's Mission Systems Branch in the Communication and Information Directorate at Wright-Patterson AFB, Ohio, helped save a driver in diabetic shock during an otherwise-typical drive home in late May. After noticing a red pickup's erratic behavior, Daly parked her own car and reached in to turn off the slow-moving truck's ignition. The barely conscious driver revived after being given insulin by ambulance medics.

- After 20 years, Air Force Reserve Command has a new slogan: "Air Force Reserve—Above & Beyond."

- Bennie L. Cole, an employee in the Manpower and Quality Office at Kelly AFB, Texas, saved an airman from serious injury or worse by crashing his car into a moving station wagon. The

wagon's driver was trying to escape from A1C Patrick Villarreal, a member of the 76th Security Forces Squadron on base. Villarreal had ordered the driver out of the car, then attempted to remove an infant from the rear seat, when the driver jumped back in and took off with Villarreal caught and hanging from the car's doorframe.

Obituaries

Alan B. Shepard Jr., the first American to fly in space and the fifth to walk on the moon, died July 21 in Monterey, Calif., at 74. He had leukemia.

Shepard was one of the great heroes of the early manned space program. He was one of the original seven astronauts chosen in 1959. On May 5, 1961, he rode the Mercury Freedom 7 spacecraft on a suborbital flight that took him into space for five minutes and returned to Earth after only 15 minutes. Despite the brevity of the flight, its impact was electrifying and brought Shepard lasting fame.

On Feb. 4, 1971, as commander of the Apollo 14 flight, he and Edgar D. Mitchell spent 33 hours on the moon. They and the third crew member, Stuart A. Roosa, splashed down in the Pacific Feb. 9. It was on this flight that Shepard produced a golf club that he had carried on board and hit two golf balls, one of which sailed a tremendous distance in the moon's weak gravity.

Shepard was a graduate of the US Naval Academy, a World War II veteran, and noted test pilot. His decorations included the Medal of Honor for his exploits in space. He retired from the Navy with the rank of rear admiral.

World War II Civil Air Patrol pioneer **Col. William D. "Pappy" Madsen** died June 23 in his native Colorado Springs, Colo. He was 85. Madsen had gained fame as the architect of a massive effort to link defense plants and military installations in the western US via a CAP "airline" consisting of volunteer pilots flying light aircraft.

Retired **Maj. Gen. Marion E. Carl**, one of the leading Marine air aces of World War II and a record-setting test pilot, was shot to death June 28 in a robbery at his home in Roseburg, Ore. He was 82. Carl, credited with 18.5 kills in the Pacific, set a world air-speed record Aug. 25, 1947, flying a Douglas Skystreak at more than 650 mph over Muroc Dry Lake, Calif.