

■ Beale U-2 Pilot Killed in Crash

Lt. Col. Ira S. Eadie, from the 1st Reconnaissance Squadron at Beale AFB, Calif., was killed Sept. 20 when his TU-2S crashed in the Sacramento Valley shortly after takeoff. Another pilot ejected and sustained non-life-threatening injuries.

Beale temporarily stopped flying training missions after the fatal crash. However, flights resumed on Sept. 23 when a Dragon Lady took off from the base at precisely 9:01 a.m.—a time representative of the 9th Reconnaissance Wing, 1st Reconnaissance Squadron, that Eadie was assigned to.

Eadie was originally commissioned in the Navy and served as a naval aviator for 13 years before transitioning to the Air Force to fly the U-2. He is survived by his wife, six children, and one granddaughter.

The cause of the crash was still under investigation at press time.

■ Boeing Unveils Twin-Tail T-X

Boeing and its partner Saab are entering a twin-tailed, high-wing jet with an afterburning GE F404 engine in the Air Force's T-X competition to replace the 50-plus-year-old T-38.

Revealing the aircraft at Boeing's St. Louis facility on Sept. 13, Darryl W. Davis, head of Boeing's Phantom Works advanced products division, said the airplane will take advantage of new manufacturing techniques—such as additive, or 3-D, printing and advanced adhesives instead of fasteners in places—and extensive reuse of proven components to hold down costs. For example, it uses the landing gear of an F-16 fighter.

The twin tails will best prepare pilots for the twin-tailed F-22 and F-35 and aid stability in practicing aerial refueling, Davis explained. The cockpit is “all glass,” has a sidestick controller,

and a layout similar to that of the F-35 and F-22. An aerial refueling port was plumbed for the center dorsal fuselage. The twin tails allow the airplane to be shorter, reducing weight and cost, Davis said. The canopy is side-opening.

■ Hyten Confirmed to Lead STRATCOM

The Senate confirmed Gen. John E. Hyten to lead US Strategic Command on Sept. 28. Hyten, who has commanded Air Force Space Command since August 2014, will replace Adm. Cecil D. Haney, who has held the position since November 2013.

Lt. Gen. John W. “Jay” Raymond was confirmed to receive a fourth star and take over AFSPC from Hyten. The Senate also confirmed the nominations of Lt. Gen. John F. Thompson to lead the Space and Missile Systems Center at Los Angeles AFB, Calif., and Maj. Gen. Robert D. McMurry Jr. for his third star and assignment as commander of the Air Force Life Cycle Management Center at Wright-Patterson AFB, Ohio.

■ The Cyber Sandbox

Cybersecurity education is “not just about code” but about a “problem-solving approach,” said Lt. Gen. Michelle D. Johnson, superintendent of the Air Force Academy, in September at AFA's Air, Space & Cyber conference. The academy is shifting toward a model of cybersecurity education that borrows lessons from schools like that of Stanford University, an interdisciplinary approach more suited to “the modern profession of arms,” according to Johnson.

Practice Makes Perfect: Col. David Mineau, commander of the 354th Fighter Wing, prepares to take off in an F-16 from the runway at Eielson AFB, Alaska, during Red Flag-Alaska 17-1. Red Flag exercises are designed to closely simulate combat sorties so that pilots are prepared for what they will face during the initial surge of a conflict.



USAF photo by SSgt. Shawn Nickel

ANG photo by MSgt. Ralph Branson



Gimme Shelter: F-22s from JB Langley-Eustis, Va., on the ramp at Rickenbacker ANGB in Ohio on Oct. 7. The Raptors were relocated to get them out of the path of Hurricane Matthew, which hit the Atlantic Coast as a Category 1 storm. Virginia was not hit, but more than 1,000 people were killed in the Caribbean as it moved up the western Atlantic Ocean and severe flooding in Florida and South Carolina caused serious damage and at least three deaths.

“We understand the difference between training and education,” she said. Meeting the particular challenges of cybersecurity requires “experiential learning” with a focus on “understanding risk” wherever it may be found, not just in the details of technical knowledge.

■ Finding the Reapers New Homes

The Air Force on Sept. 8 released the list of candidate bases for two new MQ-9 Reaper operating locations.

Potential hosts for a full wing of 24 aircraft, a launch and recovery element, a mission support element, a maintenance group, and operations support airmen include: Eglin AFB, Fla.; Tyndall AFB, Fla.; Vandenberg AFB, Calif., and Shaw AFB, S.C., according to a news release.

The Air Force also selected Davis-Monthan AFB, Ariz.; Moody AFB, Ga; Mountain Home AFB, Idaho; Offutt AFB, Neb.; and Shaw AFB, S.C., as potential locations for an operations group with mission control elements but no aircraft. These locations already house an Active Duty flying wing, a group that performs at least one core remotely piloted aircraft mission, or is co-located with an Active Duty distributed ground system, states the release. Air Combat Command will perform site surveys at the eight bases before final decisions are made as early as this winter.

■ USAF Begins Search for New Air Force One

The Air Force released a request for proposal from Boeing for the engineering and manufacturing development phase of the presidential aircraft replacement program Sept. 12.

The request calls for fielding two modified 747-8 aircraft anticipated to replace the current Air Force One fleet in 2024. The service is still considering buying a third production representative aircraft, according to a press release detailing the RFP.

Boeing has already been awarded more than \$150 million to carry out risk-reduction activities for the program to replace the VC-25 fleet.

■ Third Philippine Contingent Underway

Two USAF C-130s and airmen from the 374th Airlift Wing at Yokota AB, Japan, deployed to the Mactan-Benito Ebuen AB in the Philippines Sept. 25 as part of the third rotational air contingent to the country.

The 36th Contingency Response Group from Andersen AFB, Guam, and approximately 120 aircrew and support personnel from various units across Pacific Air Forces were also part of the deployment that included training missions and subject matter expert exchanges.

USAF A-10s were in the first contingent that deployed to Clark AB in the spring. A detachment of Navy EA-18G Growlers from the Electronic Attack Squadron 138, NAS Whidbey Island, Wash., deployed in June.

USAF photo by SSGT. Paul Labbe



Call On Me: A1C James Raynor pitches a box of supplies during an aid mission Oct. 14 near Anse-d’Hainault, Haiti. Airmen and other military members arrived in Haiti on Oct. 5, the day after Hurricane Matthew hit, to bring aid to the residents of the devastated island nation.

QF-16 Reaches IOC

Air Combat Command boss Gen. Herbert J. “Hawk” Carlisle approved the QF-16 Full-Scale Aerial Target for initial operational capability on Sept. 23.

The QF-16 replaces the QF-4 and is the first fourth generation unmanned target aircraft. The last QF-4 was shot down in August at Holloman AFB, N.M., and the remnants of the Phantom flying target fleet will officially retire in December.

The Air Force has 15 operational QF-16s, all assigned to the 82nd Aerial Target Squadron at Tyndall AFB, Fla.

Investigation Finds SBIRS Launch Delay

Investigators have identified a hardware problem that has been delaying the launch of the third Space Based Infrared System (SBIRS) geosynchronous satellite.

The problem is not with the SBIRS early missile warning satellite, but with other systems using a liquid apogee engine similar to that used by SBIRS to raise the satellite into orbit after detachment from the launch vehicle, according to a press release.

The launch of SBIRS GEO-3 from Cape Canaveral AFS, Fla., had been scheduled for Oct. 3, but was delayed because of engine anomalies found in two other satellites. The investigation team has studied the similarities of design between the anomalous systems and SBIRS. The rescheduled launch is not expected before January.

Ghost Rider Returns to Minot

A once-retired B-52H Stratofortress known as *Ghost Rider*, tail No. 61-007, returned to Minot AFB, N.D., on Sept. 27 after more than seven years in the “Boneyard” at Davis-Monthan AFB, Ariz.

The aircraft has been undergoing rehab work to make it the first B-52H regenerated back into the fleet. The process began when a cockpit fire damaged another, operational BUFF in 2014.

SpaceX’s Monster Mars Rocket

SpaceX rocket entrepreneur Elon Musk announced on Sept. 27 he is developing a giant new launch vehicle intended to provide



One If By Land: An airman practices signaling with a mirror during survival, evasion, resistance, and escape training at Rosecrans ANGB, Mo. S.E.R.E. training teaches airmen how to cope with worst-case scenarios such as being shot down in enemy territory during a combat mission.

The War on Terrorism

US Central Command Operations: Freedom's Sentinel and Inherent Resolve

Casualties

As of Oct. 18, a total of 26 Americans had died in Operation Freedom's Sentinel, and 26 Americans had died in Operation Inherent Resolve.

The total includes 50 troops and two Department of Defense civilians. Of these deaths, 17 were killed in action with the enemy while 35 died in noncombat incidents.

There have been 126 troops wounded in action during OFS and 16 troops in OIR.

More Than 600 Additional Troops Headed to Iraq

The US military announced on Sept. 28 the deployment of more than 600 troops to help Iraqi forces retake Mosul, shoring up the logistics and continuing the buildup of a remote airfield for the fight. Defense Secretary Ashton B. Carter said the troops are headed to locations across Iraq, including Qayyarah West and al Asad airfields, to act as "enablers" for Iraqi security forces to retake Mosul and assist in holding territory they take.

The new approved ceiling for the number of troops deployed to Iraq is 5,262, a senior defense official said. The exact number of new troops heading to Iraq is 615, the official said.

The additional troops were approved by President Barack Obama at the recommendation of Carter and Marine Corps Gen. Joseph F. Dunford Jr., Chairman of the Joint Chiefs of Staff.

US Strike Destroys ISIS Chemical Weapons Plant

US Air Force and Marine Corps aircraft conducted a massive air strike on an ISIS chemical weapons facility, dropping dozens of weapons at the same time to wipe out a facility used to create chlorine gas.

The Sept. 12 strike included 12 aircraft—Air Force F-15Es, F-16s, A-10s, and B-52s and Marine Corps F/A-18Ds—that hit more than 50 "points of interest" at an ISIS weapons storage facility and headquarters building near Mosul, US Air Forces Central Command boss Lt. Gen. Jeffrey L. Harrigian said.

Tough Summer for ISIS in Afghanistan

Afghan special forces enabled by US counterterrorism forces have reduced the number of ISIS fighters in Afghanistan by 25 percent since late July, according to Army Gen. John W. Nicholson Jr., commander of the Resolute Support mission and US Forces Afghanistan.

Twelve top leaders, including emir Hafiz Saeed Khan, have been killed during that same period. Between 1,200 and 1,300 fighters are believed to still make up the group. It is concentrated in the Nangarhar province in eastern Afghanistan and has direct links—advisory and financial—to the parent group in Iraq and Syria, Nicholson said.

US Aircraft Pound ISIS in Libya in Busiest Day

US aircraft on Oct. 2 had the busiest day in the fight against ISIS in Libya, conducting 20 air strikes on dozens of enemy positions around Sirte. The strikes hit 71 ISIS fighting positions, along with vehicle-borne improvised explosive device facilities and a supply location, US Africa Command announced. The barrage brings to 201 the number of strikes conducted since Operation Odyssey Lightning began on Aug. 1.

US forces, including US Marine Corps Harriers and Air Force remotely piloted aircraft, have been supporting Libyan Government of National Accord troops in their attempt to clear the city of ISIS fighters.

Iraqi Assault on Mosul Begins

Iraqi government and Peshmerga troops launched the long-awaited battle against ISIS in Mosul on Oct. 17, sending armored convoys into the city with support of US and coalition aircraft, including air controllers on the ground. The operation against Mosul is expected to take weeks, if not longer, and is mainly the responsibility of coalition-trained Iraqi soldiers.

"Iraq is supported by a wide range of coalition capabilities, including air support, artillery, intelligence, advisors, and forward air controllers," Combined Joint Task Force Operation Inherent Resolve Commander Lt. Gen. Stephen J. Townsend said in a statement. "But to be clear, the thousands of combat forces who will liberate Mosul are all Iraqis." ISIS captured the city more than two years ago, and Iraqi and coalition officials have said they are dug in for a fierce battle. About 30,000 Iraqi and Kurdish troops began the march on Mosul, after Iraqi Prime Minister Haider al Abadi announced the offensive saying, "The Iraqi flag will be raised in the middle of Mosul and in each village and corner very soon," according to *The New York Times*.

By the Numbers

3,994

The number of close air support sorties flown in 2016 for Operation Freedom's Sentinel and NATO's Operation Resolute Support, according to statistics released by US Air Forces Central Command as of Sept. 30.

routine trips to Mars. The vehicle would have more than three times the thrust of the Saturn V rocket that took astronauts to the moon, would be 122 meters (400 feet) tall and have a diameter of 12 meters (39 feet).

It would be propelled by 42 engines and the launch stage would be reusable, landing back at the launch site allowing it to be quickly refueled and relaunched.

SpaceX is developing what it calls its Raptor booster engine in a two-to-one funding program with the Air Force, which has put up \$33.6 million for an upper-stage variant of the Raptor, while SpaceX has funded the other \$67.3 million.

Besides supporting Mars flights, the rocket would be able to loft heavy cargo to the International Space Station. The vehicle could also support heavy-lift commercial and Air Force missions to geosynchronous orbit.

Musk said the new vehicle is “really a scaled-up version of the Falcon 9 booster.” The Raptor engine will be in test through 2019, full booster testing through 2021, and orbital testing by 2023, when Musk plans to start routine Mars flights at every launch window, about 26 months apart. The first manned missions are expected near the end of the 2020s.

A SpaceX Falcon 9 rocket and its payload were destroyed on Sept. 1 when an oxygen tank exploded during a prelaunch fire test at Cape Canaveral AFS, Fla.

It was the second Falcon 9 to explode in a year. A SpaceX rocket carrying supplies to the International Space Station exploded after lifting off in June 2015.

■ Four JSTARS Grounded

The Air Force grounded four of its E-8 JSTARS aircraft in mid-September for inspections at Robins AFB, Ga., after they were delivered from a Northrop Grumman depot believed to be associated with a trend of mishaps.

The aircraft were “inspected for possible safety of flight issues,” spokeswoman Ann Stefanek said in a statement. Air Force Materiel Command “is concerned about a trend of mishaps, mostly minor but at least one significant, that appear associated with” the Northrop Grumman Lake Charles Maintenance and Modification Center in Louisiana, an AFMC spokesman Charles Paone told *Air Force Magazine* in an email.

The significant mishap consisted of water being found where it should not have been, resulting in damage. AFMC Chief Gen. Ellen M. Pawlikowski directed the Air Force Life Cycle Management Center to develop the inspection criteria Sept. 16, Paone said.

By Sept. 23 the four aircraft had been returned to operational status. The inspections “did reveal some concerns that warranted noting and/or correction before returning to flight,” Paone said. The concerns were immediately remedied at Robins, he said.

Northrop Grumman JSTARS Program Director Bryan Lima said the company “is committed to quality and safety” and is “working with the Air Force to ensure that the Joint STARS aircraft are mission-ready.”

In September, the Air Force issued a draft request for proposal to industry for the next generation JSTARS, saying the full RFP “is in final coordination.” The Air Force’s E-8 JSTARS fleet completed one million hours of flight time on Sept. 6 while deployed to the Middle East.

■ 15 F-35As Grounded

The Air Force grounded 15 F-35As, including 10 operational jets at Hill AFB, Utah, due to a problem in the avionics cooling lines caused by a subcontractor. Two of the grounded aircraft were training jets at Luke AFB, Ariz. One was a test unit at Nellis AFB, Nev., Air Force spokeswoman Ann Stefanek said.

The issue was first identified in early September, about one month after the service declared its F-35A fleet operational, and also impacts 42 aircraft on the production line. The problem was discovered during depot maintenance at the Ogden Air Logistics Center and stems from a subcontractor incorrectly installing avionics cooling lines in the wings of the jets, according to manufacturer Lockheed Martin.

About a week after the avionics issue was detected, a USAF F-35A assigned to the 56th Fighter Wing at Luke AFB, Ariz., caught fire while preparing to take off during an exercise at Mountain Home AFB, Idaho. The pilot shut down the engine and performed an emergency egress, 56th FW spokesman Lt. Col. Matt Hasson said.

The fire, in the aft section of the aircraft, was extinguished quickly. Seven airmen and the pilot were taken to the base medical center for evaluation, but were unharmed. The cause of the fire remains under investigation.

Seven F-35s from Luke deployed to Mountain Home on Sept. 10 for two weeks of training. The other six aircraft returned to Luke the day after the incident and are continuing to fly, Hasson said. ★

Reader’s Note

Dear Readers,

With this issue, *Air Force Magazine* begins rolling out changes that will take effect over the next year.

First, you will notice that this issue bears the cover date “November/December.”

Here’s why: In 2017 we expect the magazine to go on sale at selected commercial newsstands. This issue is akin to a “change step” while marching, and brings us in line with other retail-sale magazines—which typically carry a date one month later than their publication. Your next issue of the magazine, arriving on the regular schedule in December, will be dated January 2017. Going forward, *Air Force Magazine* covers will always show the month after the magazine arrives.

The main noticeable difference is that (for example), when you receive the annual USAF Almanac in May—same as in previous years—the cover will say June.

Second, we are changing to 10 print issues and two digital-only issues per year. In March you will receive your April/May 2017 issue, which will be followed the next month by an online-only special edition covering all the news from the Air Force Association’s annual Air Warfare Symposium.

Similarly, in September, *Air Force Magazine* will publish a combined October/November issue, which will be followed the next month by a digital-only special edition with the news from AFA’s annual Air, Space & Cyber conference.

These digital-only editions will allow us to provide you with comprehensive coverage from AFA’s premier events weeks sooner. These marquee events are attended by all the top Air Force leadership and always produce a large amount of important news.

In conclusion, AFA members will still receive 12 issues of *Air Force Magazine* per year. Ten of them (including the June USAF Almanac and our October/November double issue) will be in print. Two issues, delivered electronically in April and October, will be digital only.

We welcome your feedback and suggestions for the future as we work to make *Air Force Magazine* ever more timely, comprehensive, and responsive. As always, you can reach the editors at afmag@afa.org.

Thank you,
Adam J. Hebert
Editor in Chief