

By Wilson Brissett, Senior Editor

■ **Off We Go—on the T-X**

The Air Force released the final request for proposal (RFP) for the T-X advanced pilot trainer on Dec. 30, launching a competition that is expected to pit a half-dozen major contractors against one another for a contract worth in excess of \$16.3 billion. The award, expected in 2017, would be for 350 jets and a ground-based training system to replace the T-38 fleet. The Air Force wants initial operational capability in 2024 or sooner.

According to the RFP, the award will cover development and production of the first five aircraft, plus mission planning systems, ground support gear, and initial spares. The first two lots of production jets would be at a low rate, followed by nine more lots at full rate, likely to be about 37 jets per year. “T-X is a program we’ve got to get right,” Air Force Chief of Staff Gen. David L. Goldfein said in an accompanying statement.

Boeing/Saab, Northrop Grumman, and Sierra Nevada/Turkish Aerospace Industries are offering new-design aircraft for the competition, while Lockheed Martin is offering the

T-50A variant of the Korean Aerospace Industries T-50 trainer and Raytheon is bidding the T-100 variant of the Leonardo (formerly Alenia Aermacchi) M346 Master. Textron is reported to be considering offering a modified version of its Scorpion jet—which in its present configuration doesn’t meet USAF’s G-loading requirements—and service officials suggested that other, surprise offerors may join the contest.



USAF photo by Amn. Tristan D. Viglianco

■ **Traffic Control Mistake Caused Collision**

An F-16CM and a private Cessna collided in July 2015 because neither aircraft could see the other and there was poor direction by an air traffic controller, causing the aircraft to crash. The pilot and passenger of the small plane were killed.

The F-16, assigned to the 20th Fighter Wing at Shaw AFB, S.C., was traveling to Charleston, S.C., when a controller directed the Viper to turn 180 degrees near a small airfield near the town of Moncks Corner. A Cessna 150M had taken off and was ascending into the path of the F-16. The Air Force pilot had an obstructed view and insufficient time to avoid a collision.

The investigation found that the controller’s direction to send the F-16 to a nearby uncontrolled airfield and the pilot’s nonuse of additional systems (such as those that scan for civilian transponders) contributed to the crash.

The crash killed Michael Johnson, 68, and his son Joseph Johnson, 30, both of Moncks Corner. The pilot ejected and sustained minor injuries.



National Transportation Safety Board photo

■ **F-35 ANG Candidate Bases Announced**

The Air Force has named five installations as candidates to become the second and third Air National Guard homes for the F-35A. They are: Montgomery Regional Arpt. (Dannelly Field AGS), Ala.; Boise Air Terminal (Gowen Field AGS), Idaho; Jacksonville Arpt./AGS, Fla.; Selfridge ANGB, Mich.; and Truax Field/AGS, Wis., according to a press release.

USAF said it would select preferred and alternate locations this spring. Environmental impact studies will be performed and a final decision will then be made. The F-35A will begin arriving at the selected bases in the mid-2020s.

The 158th Fighter Wing at Burlington Arpt./AGS, Vt., is slated to receive the Guard’s first F-35s in fall 2019. The Air Force also previously named three Active Duty operational locations for F-35A basing, including Hill AFB, Utah; RAF Lakenheath, UK; and Eielson AFB, Alaska.



USAF photo by SrA. Devante Williams

### ■ Holmes Confirmed To Lead ACC

USAF photo



The Senate confirmed Lt. Gen. James M. "Mike" Holmes to receive his fourth star and lead Air Combat Command. Holmes, currently the deputy chief of staff for strategic plans and requirements, will take over from Gen. Herbert J. "Hawk" Carlisle, who is retiring. Carlisle has led ACC since October 2014.

Holmes is a command pilot with more than 4,000 hours, mostly in F-15s.

### ■ USAF Approves Lockheed GPS Ground Control System

The Air Force approved Lockheed Martin's design for an upgrade to the existing GPS ground control system, which will now enter risk reduction, the company announced. This upgrade is being performed under a \$96 million contract approved in February 2016 and will enable the current system, built to operate GPS II satellites, to also operate the next generation GPS III. Lockheed Martin is building those satellites. The first is scheduled for launch this year.

The upgraded control system provides a temporary solution until the next generation Operational Control System (OCX) is completed. OCX is being built by Raytheon, but its progress was delayed in July when a Nunn-McCurdy breach was declared because the program exceeded the 25 percent cost overrun threshold. In October, a Government Accountability Office report recommended the OCX program increase transparency by establishing clear milestones and clarifying its acquisitions strategy.



USAF photo by A1C Mike Meares

### ■ Moving Forward With JSTARS Recap

The Air Force released the final request for proposal to industry for the JSTARS recapitalization program. The RFP "includes all aspects of the system, including the airframe, radar, communication systems, and battle management command and control suite," according to an Air Force news release.

The service intends to award a contract in Fiscal 2018 for three engineering and manufacturing development (EMD) Joint Surveillance Target Attack Radar System (JSTARS) recap weapon systems for testing, with options for low-rate initial production of two more aircraft and full-rate production of four aircraft each in Lots 1 to 3, bringing the total fleet to 17 aircraft.

The contract will include options for "ground support, such as training systems, mission planning and processing systems, system integration labs, support equipment, and spares," stated the release.

Initial operational capability for the JSTARS recap is slated for 2024. Northrop Grumman, Boeing, and Lockheed Martin recently completed an 11-month pre-EMD phase, helping to assess the "maturity of subsystem technology," stated the release, and reduce the risk of weapon system integration. The Air Force released a memorandum to industry and a draft RFP in September 2016—the same week the current E-8 JSTARS fleet, made up of 16 Boeing 707s dating to the 1960s, reached one million flight hours.



USAF photo by SrA. Miles Wilson

### ■ Thunderbird Felled by Sticky Button

The Thunderbirds aerial demonstration team F-16 that crashed in Colorado on June 2—minutes after a flyby of the Air Force Academy graduation attended by President Obama—was done in by a stuck button on the throttle, the service announced.

USAF photo by Dave Meade



Normally the throttle won't move all the way to cutoff unless the button is depressed, but the button had become stuck in the depressed position due to accumulated metallic debris, stray lubricant, a misaligned clevis pin, and wear on the spring mechanism, USAF's official accident investigation found.

The pilot, Maj. Alex Turner, inadvertently rotated the throttle to the engine cutoff position, and by the time he realized what had happened, was too low to restart the engine, though he attempted to do so. Turner delayed ejection for a few seconds to steer the jet away from a house. He ejected with only minor injury, was picked up, and was later introduced to Obama.

Turner was returned to flying duty. Though the jet, tail No. 92-3890, seemingly landed upright and largely intact, it was declared a total loss, at a value of \$29.5 million. Technical orders have been changed to require a more thorough regular inspection of the mechanism and the proper alignment of the pin.

### ■ Flexing Air Force Muscles in the South China Sea

US bombers and fighters, in mid-December, flew a show-of-force sortie over the South China Sea that included one B-52H, two B-1Bs, four F-15Cs, seven tankers, and a US Navy guided missile destroyer as tensions are raised in the region.

The operation was a “routine small force training sortie” that included several forward operating bases in the region. The B-52 was one of three that deployed from Minot AFB, N.D., to Andersen AFB, Guam, on Dec. 3 for a 15-day rotation. The Stratofortresses at the base were in addition to the B-1s already forward deployed as part of the Air Force’s continuous bomber presence to the Pacific. The B-52s flew 15 sorties during the short deployment, the news release stated.

The B-52 also participated in the Phoenix Black exercise in Australia during its deployment.

USAF photo by SSgt. Benjamin Gonsier



### ■ Lockheed Gets \$60 Million for ICBM Modernization

Lockheed Martin received a new contract and the Air Force extended a second, worth a combined total of more than \$60 million, to revitalize the Air Force’s Minuteman III reentry systems. The awards include a \$50 million, four-year fixed-price contract covering seven reentry field support equipment units and additional support equipment. Another \$10.6 million contract extends an existing deal for ICBM reentry vehicle integration and modernization, according to a Lockheed Martin press release.

The contracts come as the Air Force seeks to modernize its Minuteman III fleet to keep it viable until its replacement. A request for proposal for the Ground Based Strategic Deterrent system went out last fall, with development expected in the late 2020s and an expected cost of about \$62 billion.



USAF photo by A1C Ian Dudley

## Gen. Seth J. McKee, 1916-2016

Seth Jefferson McKee, who was four-star head of North American Air Defense Command from 1969 to 1973, headed US Forces Japan, and was a World War II combat pilot, died in Scottsdale, Ariz., Dec. 26, 2016, at the age of 100.

McKee, born in McGehee, Ark., started his military career in 1935. He joined the Missouri National Guard, ostensibly to earn money for a medical education, but became an aviation cadet and earned his wings in 1939.

He trained to fly the P-38 Lightning and was a test pilot at Knoxville Field, Ala., and then Orlando, Fla. He finagled an assignment to Europe and got into World War II, flying bomber escort missions. On D-Day, as a lieutenant colonel, he led a group of 40 P-38s providing air cover for troops on the beaches at Normandy. At the time of his death, he was the highest-ranking veteran of Operation Overlord, according to the *Arizona Republic*.

During the war, he flew 69 missions and destroyed two enemy aircraft. McKee was an accomplished attack pilot, destroying numerous armored vehicles, trains, artillery, airfields, and other

ground targets. He was named commander of the 370th Fighter Group in Europe in November 1944.

After the war, McKee completed his college education and returned to Europe as a technical advisor to the Italian air force and later served as commander of the 36th Fighter Bomber Group. He commanded the 2nd Bombardment Wing and served as deputy director of plans for Strategic Air Command, Offutt AFB, Neb.

In 1966, he took command of US Forces Japan and 5th Air Force. Two years later, he became assistant vice chief of staff and in 1969 received his fourth star as head of NORAD and US Aerospace Defense Command in Colorado.

In addition to the Distinguished Service Medal, Silver Star, three Legions of Merit, and the Distinguished Flying Cross, McKee received decorations from allied nations. In November 2016, he was made a Chevalier in the National Order of the Legion of Honor, France’s highest honor.

USAF photo



# The War on Terrorism

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

### Casualties

By Jan. 19, a total of 33 Americans had died in Operation Freedom's Sentinel (Afghanistan), and 33 Americans had died in Operation Inherent Resolve (Iraq and Syria).

The total includes 63 troops and three Department of Defense civilians. Of these deaths, 29 were killed in action with the enemy while 37 died in noncombat incidents.

There have been 145 troops wounded in action during OFS and 29 troops in OIR.

### Effective Support or Overreliance on Airpower?

Air Force commandos need to walk a fine line in delivering air strikes to support the Iraqi advance against ISIS, between providing effective help and having the Iraqi army rely too much on coalition aid, a USAF tactical air control party officer said Dec. 16. The airman, who spoke to defense reporters on background about airpower in Operation Inherent Resolve, said US joint terminal attack controllers in Iraq and Kuwait work with Iraqi officials to approve every air strike that helps the Iraqi troops advance in their ground operation.

US airmen, who number in the dozens and are located in "strike cells" far removed from the front lines, help the Iraqi army plan. However, the majority of strike targets come from Iraqi troops on the frontline as opposed to US intelligence and surveillance. "We don't want to tell them what would be a good target for their operation," the Air Force officer said. "It defeats the purpose of emboldening their army."

An Air Force team gets Iraqi approval for strikes, which go through an extensive vetting process. But too much reliance on Americans in the fight could be "hindering their fortitude," he said. It's the Iraqi army's fight, with US support. Air strikes are needed to "get them to act" without counting too much on US troops.

ISIS has proved to be a "frustrating" enemy to fight, because it depends on innocent civilians for cover. "They're in a city. If you hide your rifle, you [appear to be] a civilian. How do you get around that?" the officer asked, explaining that it takes patience and sustained intelligence to develop and ensure effective targeting.

### Iraqi Forces Have Claimed a Quarter of Mosul

As of mid-December, Iraqi forces had retaken about a quarter of the ISIS-held city of Mosul, an approach that was moving slowly because of a "360 degree" threat from the group, including car bombs and tunnels. US Army Lt. Gen. Stephen J. Townsend, commander of Combined Joint Task Force-Operation Inherent Resolve, said Dec. 14 that Iraqi forces claimed half or more of the eastern side of the city with a heavy fight expected as they moved west.

"I believe that the enemy is faced with a very stark choice," Townsend said. "If he wants to fight and die, then he's made that decision; he'll stay there. If he wants to get out to try to fight again another day, if he wants to get out to try to go back home and stop fighting, he's going to have to make that choice soon as the Iraqi security forces approach."

US and coalition air strikes have killed or seriously wounded more than 2,500 ISIS fighters since mid-October, and strikes targeting the group's financial operations have cost the group between \$4.5 million and \$6.5 million per month. "We've conducted various strikes out there," Townsend said. "I don't require a lot of justification for doing that. There is [ISIS] out there that needs killing, so we're killing them."

### US Sending More Troops to Syria

The US is building up its presence inside Syria, sending 200 more special operations troops to continue assisting in the advance on ISIS' self-proclaimed capital. Defense Secretary Ashton B. Carter said he requested the additional troops as part of a new phase in the fight, focused on expelling ISIS from Raqqa.

The troops "play a vital role in helping to identify, build, and then enable the force that will expel [ISIS] from Raqqa and be a critical part of destroying [ISIS] here in Iraq and Syria, which we must do and which we will do," Carter said Dec. 11 during a briefing at Qayyarah West Airfield in Iraq.

There were already about 300 troops inside Syria embedded with Syrian Democratic Forces advancing on the capital. US troops had also been embedded with Turkish forces.

### Coalition Jets Kill Planners of 2015 Paris Attacks

US-led coalition jets on Dec. 4 took out three senior ISIS leaders, including two involved in planning the Nov. 13, 2015, attacks on Paris, according to defense officials. The strike on the ISIS-held city of Raqqa, Syria, killed Salah Gourmat and Sammy Djedou, who helped facilitate the attacks that killed 130 people in multiple locations in Paris.

The strike also killed Walid Hamman, a suicide attack planner who helped organize a 2015 terror plot in Belgium that was disrupted, Pentagon spokesman Peter Cook said in a statement. The targets were "working together to plot and facilitate attacks against Western targets at the time of the strike." Coalition aircraft have recently killed five external plotters, disrupting the group's ability to plan attacks outside Iraq and Syria, Cook said.

### US Ends Counter-ISIS Operation in Libya

US Africa Command on Dec. 19 ended its support for the Libyan Government of National Accord after conducting 495 air strikes in an effort to drive ISIS from the city of Sirte. Operation Odyssey Lightning began on Aug. 1 as ISIS took over the seaside city. US aircraft, mainly Marine Corps jets from USS *Wasp* and remotely piloted aircraft, flew regular air strikes as Libyan troops moved from neighborhood to neighborhood to clear the city.

While the official operation has concluded, US Africa Command said in a statement it will still work with the Libyan government to counter the "evolving threat" of ISIS in the country. AFRICOM's announcement came one day after the Libyan government officially said ISIS was expelled from Sirte, though officials warned the fighting was not completely over in the country.

# 30,743

## The number of bombs dropped on ISIS in 2016 by US and coalition aircraft in Operation Inherent Resolve.

By the Numbers

### John H. Glenn, 1921-2016

John Herschel Glenn Jr.—a Marine Corps fighter pilot, test pilot, astronaut on missions 36 years apart, US Senator from Ohio, and 1984 presidential candidate—died Dec. 8, 2016, at the age of 95.

Glenn grew up in New Concord, Ohio, graduating from high school in 1939 and proceeding directly to Muskingum College, where he studied engineering. For extra credit in a physics course, he earned a private pilot license. In 1941, after the attack on Pearl Harbor, he quit college and enlisted in the Air Corps, but when he was not called to duty, in 1942 he applied to be a naval aviation cadet.

During advanced aviation training, he was asked to transfer to the Marine Corps and agreed. He flew the R4D transport, the F4F Wildcat, and the finally the F4U Corsair. He shipped out to the Marshall Islands in 1944, there flying 59 missions and earning two awards of the Distinguished Flying Cross and 10 Air Medals.

He earned a regular commission at the war's end and elected to stay in the Marine Corps, flying on weekends to maintain proficiency when his regular duties kept him from the cockpit.

Glenn was sent to the Korean War as a major in 1952. In his first tour there he flew the F9F Panther, performing reconnaissance and ground-attack missions. He then applied to be an exchange officer with the Air Force and flew the F-86F Sabre. He shot down three MiGs in July 1953, the last month of the war. He received two more awards of the Distinguished Flying Cross and eight more Air Medals for action in Korea.

While still there, he applied to be a Navy test pilot and after the war tested the FJ-3 Fury, F7U Cutlass, and F-8 Crusader. He famously set a transcontinental speed record in the Crusader, averaging supersonic speed—3.5 hours coast-to-coast—despite slowing down for three aerial refuelings. The mission earned him a fifth DFC.

Glenn contributed to the nascent space program even before becoming an astronaut, participating in capsule design and astronaut testing development while at NAS Patuxent River, Md. Though just shy of the age cutoff (40 years old) and lacking a technical degree, he was picked as one of the original seven Mercury astronauts in 1959.

He became the fifth man in space—and third American—in 1962. The mission was a nail-biter, as technicians received an indication early in the flight—the first manned mission aboard the Atlas booster—that Glenn's heat shield, critical for re-entry, had come loose. They cut the planned nine-orbit flight short, and the re-entry and landing were normal.

NASA photo



The US had been lagging behind the space achievements of the Soviet Union, and Glenn's three-orbit "Friendship 7" flight put the two countries on seemingly an even footing. The famous phrase "Godspeed, John Glenn," was uttered by fellow Mercury astronaut M. Scott Carpenter at the outset of the flight.

The success earned Glenn national recognition and a ticker-tape parade in New York City, and he received the rare honor of being asked to address a joint session of Congress. His alma mater, Muskingum College, conferred his bachelor's degree diploma that same year.

Though many outside NASA believed Glenn would be given the opportunity to be the first man to walk on the moon, NASA deemed him too valuable a national hero to be risked in further space missions, and his age—by then he was 42 years old—was against him. He left NASA in 1964.

After one unsuccessful attempt, Glenn was elected to the US Senate from Ohio in 1974—a seat he would hold until 1999. He chaired the science and technology committee for many years and served on countless advisory boards regarding NASA and national space goals.

Glenn re-entered the national consciousness with the hit 1983 movie, "The Right Stuff," about the early space program. He was portrayed by actor Ed Harris. In 1984, he sought the Democratic presidential nomination, but came in second to Walter F. Mondale.

In 1998, Glenn persuaded NASA to allow him to fly on the space shuttle—ostensibly to study the effects of microgravity on geriatric physiology—and he became, at 77, the oldest person ever to fly in space.

He was awarded the Congressional Gold Medal in 2011, and in 2012, President Obama awarded him the Presidential Medal of Freedom, the nation's highest civilian honor. At the time of his death, Glenn was the sole surviving astronaut of the Mercury program.

In a statement, Obama said the nation had "lost an icon."

"The last of America's first astronauts has left us," Obama said, but their example "compels us to keep reaching for the heavens."

Glenn is to be buried at Arlington National Cemetery in April.