Final F-22 Delivered
Golden Orion
Iowa F-16s In Kandahar
First C-130E Retired
Picking Up A Dolphin

A C-5A Galaxy crew from the 433rd Airlift Wing, the Air Force Reserve Command unit at JB San Antonio-Lackland, Texas, transported a US Coast Guard HH-65C Dolphin helicopter back to the United States from Cairns, Australia, 6 to 8 May 2012. The USCG Deployable Operations Group requested airlift support for a crew from CGAS North Bend, Oregon, assigned to the cutter USCGC Waesche (WMSL-751). The Dolphin crew was providing fishery law enforcement near the American territories in the southwest Pacific. After a stop at JB Pearl Harbor-Hickam, Hawaii, the C-5A crew unloaded the helicopter at Travis AFB, California. The Coast Guard team then used ground transportation to get the partially disassembled helicopter back to Oregon.

Son Tay Raider Retired

The MC-130E Combat Talon I Special Operations airlifter that was the lead aircraft on the 21 August 1970 raid on the North Vietnamese Son Tay prisoner of war camp was retired on 22 June 2012 after more than 23,500 flight hours and forty-seven years of service. For the final flight, the crew used the same radio call sign, Cherry 1, as was used during the raid. The MC-130, nicknamed The Godfather, was flown from Duke Field, Florida, where it had been based, to Cannon AFB, New Mexico, for static display. It is one of four Combat Talons that will be retired in 2012 by the 919th Special Operations Wing, the Air Force Reserve Command unit at Duke Field.

Posthumous Silver Star

More than fifty years after his U-2 Dragon Lady high altitude reconnaissance aircraft was shot down over the former Soviet Union, former US Air Force Capt. Francis Gary Powers posthumously received the Silver Star during a Pentagon ceremony on 15 June 2012. Powers, who died in a civilian helicopter crash in 1977, was cited for heroism displayed while being held as a captive by the Soviets from May 1960 to February 1962. Air Force Chief of Staff Gen. Norton Schwartz presented the medal to Powers’ grandson, Francis Gary Powers III, and granddaughter, Lindsey Berry, before more than 100 family members, friends, and service members. The Silver Star, awarded since 1932, is the third highest US military decoration for valor in combat.

32 Squadron Anniversary Celebration

A Royal Australian Air Force King Air 350 crew flew in formation with a museum flight crew in a World War II Lockheed Hudson patrol bomber on 2 June 2012 as part of the anniversary celebration for 32 Squadron, currently the RAAF air combat officer and observer training squadron at RAAF East Sale, Victoria. The Hudson Mk. IVA, owned and flown by the Temora Air Museum, was originally contracted as a US Army Air Forces Lend-Lease A-28 and was delivered to the RAAF on 5 December 1941. The aircraft was restored in 1993. Personnel from 32 Squadron, hastily formed at Port Moreton in February 1942, began reconnaissance and bomber operations in the Hudson on the day the unit was formed.
LAST OF THE LINE: RAPTOR 4195 DELIVERED
Ceremonies Close Out Fifteen Years Of F-22 Production

F-22 CHRONOLOGY
Part 2: Raptor 01 First Flight To Final Delivery

GOLDEN ORION
P-3: Fifty Years Of Operations... And Still Going Strong

MILESTONE DELIVERY: 4,500TH F-16
The Multirole Fighter Line Keeps Rolling On

F-35 FLIGHT TEST UPDATE
Lightning II Testing Highlights From February To July 2012

IOWA F-16S IN KANDAHAR
Deployed Fighting Falcon Unit Moves From Base To Base

FIRST AND LAST
The First E-130E Off The Assembly Line Is Retired After Sixty Years
The morning of 2 May 2012 was a busy one at Lockheed Martin in Marietta, Georgia. Inside the plant’s 3.4-million-square-foot B-1 production building, employees busily prepped for one of the largest events in the site’s history—the formal delivery ceremony of the last F-22 Raptor. But the scene outside the building was decidedly calmer, as the final F-22 Raptor, Air Force serial number 10-4195, sat perfectly positioned for its soon-to-be grand reveal.

The Raptor sat by itself for most of the morning, with only the eyes of Security and flightline employees on it. Every so often, a Lockheed Martin employee walked past the jet en route to other job duties. Several paused to take a look at this Raptor, putting their hands over their brows to block the sun. On this day, it was time to officially complete the Raptor fleet.

Over the last seventy years, the plant had seen its share of military aviation history. As the Bell Bomber plant in the early 1940s, B-29 Superfortress bombers rolled out of the building. Since 1951 when the site was reopened as the Lockheed-Georgia Company, the plant had produced every production C-130 Hercules, the C-141 StarLifter, C-5 Galaxy, and the last new-build P-3 Orions in the US.

The C-130J Super Hercules production line and the P-3 Orion replacement wing line occupy the east end of B-1. The new F-35 Lightning II center wing assembly line takes up about half of the building’s west end.

Parallel to the F-35 line was a noticeably open, unused space—145,000 square feet to be exact. Until December 2011, this space was the site of the F-22 Raptor final production line. Here the jet’s center wing arrived for final assembly from Lockheed Martin in Fort Worth, Texas. The wings and the aft fuselage arrived for final assembly from Boeing; F119 engines arrived for final installation from Pratt & Whitney. From 1997 to 2012, Lockheed Martin built and delivered 195 Raptors to the US Air Force, which included nine test aircraft.

State-of-the-art tooling occupied the space, which required government clearance to enter. Now the last Conex containers holding the disassembled Raptor tooling await departure to the Sierra Army Depot in California where the fixtures and work stands will be stored. Every F-22 assembly process has also been videotaped, photographed, recorded, and stored.

On this day, that corner of B-1 was quiet. The only reminders of the F-22 legacy now in this space were a few Air Force/contractor team logos and operational squadron patch decals on the floor.

The scene was quite different at the other end of the B-1 production facility. More than 1,000 people had gathered there for the delivery ceremony.

US Senator Johnny Isakson (R-Ga.), US Air Force Chief of Staff Gen. Norton Schwartz, and F-22 contractor team leaders saluted those who designed and built the Raptor. Isakson praised their commitment in creating the “finest weapons system known to mankind.”
“Nothing in the air beats the F-22,” Isakson continued. “When the F-35 is finished and flying in tandem with the F-22, the United States of America will be where it has always been—at the head of air superiority of any nation in the world.”

Robert J. Stevens, Lockheed Martin chairman and CEO, noted that the F-22 program had its share of challenges over the thirty years since the first study contracts for the Advanced Tactical Fighter were awarded. But the F-22 had overcome those challenges to create new standards in aviation and in global security.

“There is no longer any nation that wishes us ill or any adversary that wishes us harm that has any doubt that its actions will have consequences—that it will be held to account and that our nation’s response will be undeterred,” Stevens said. “The very existence of this airplane—your airplane—has altered the strategic landscape forever.”

The F-22 provides a broader US military portfolio where it will “clearly play a starring role,” Schwartz said. “The delivery represents an important element in our overall modernization effort. We continue to focus on ensuring that these capabilities will help shape the future security environment, not just respond to it.”

A ceremonial key was then presented from the contractor team to the Air Force. The key was passed from Schwartz to Lt. Col. Paul Moga, commander of the 525th Fighter Squadron at JB Elmendorf-Richardson, Alaska, to SSgt. Damon Crawford, the dedicated crew chief for Raptor 4195 at Elmendorf, the aircraft’s new home.

A dramatic reveal of the last Raptor concluded the event. The immense metal doors of the B-1 building were raised to make public the sleek jet that had rolled off the F-22 assembly line at the opposite end of the building in December 2011.

Audience members swarmed around the aircraft after the ceremony. For some in the audience, it was the first time they had been near a completed F-22. Members of the local media filmed live feeds for the noon newscast.

Work called most of the crowd away. Soon the sound of riveting from the P-3 and C-130 lines punctured the air while crews dismantled the ceremony setup.

Three days later, Moga taxied Raptor 4195 from the Lockheed Martin flight-line to the adjoining Dobbins ARB runway. The last Raptor was joined by Raptor 4193, which was also destined for operations in Alaska.

Raptors are assigned to seven bases in the United States. Continued flight testing takes place at Edwards AFB, California. Operational tactics development continues at Nellis AFB, Nevada. Pilot training takes place at Tyndall AFB, Florida, which in 2013 will also be home to a combat-ready Raptor squadron. In addition to Elmendorf, operational F-22s are also assigned to JB Langley-Eustis, Virginia; Holloman AFB, New Mexico; and JB Pearl Harbor-Hickam, Hawaii.

Moga has a long history with the F-22 as he was one of the first thirteen pilots accepted into the F-22A program as the initial Formal Training Unit, or FTU, instructor pilot cadre. He was also the first Air Combat Command F-22 demonstration pilot.

A few hours after takeoff, Raptor 4195 landed Code One at the base near Anchorage. Moga’s family greeted him on the flightline, while Air Force personnel welcomed the Raptor 195 to its new home. The Raptor fleet was complete. ♦

Stephanie Stinn is a program communicator for Lockheed Martin.
The first part of this two-part chronology of the F-22 Raptor ended with the maiden flight of the first production version of the F-22 in 1997. This part ends with the delivery of the last production Raptor in May 2012. While that event marks the end of this series, the history of the F-22 program is still being written at the operational and training units, in flight testing of new capabilities, at the support centers, and with the upgrade and modernization programs that will come in future years.

The strategic significance of the Raptor has already come into play on several occasions, even though the F-22 has yet to see combat. Future adversaries will have to reckon with the combination of stealth, speed, maneuverability, and sensor fusion that the F-22 brings to the fight. The Raptor has fundamentally changed the nature of aerial warfare.
1997

14 SEPTEMBER Lockheed Martin test pilot Jon Beesley makes the second flight of the first F-22 Raptor 01 (Air Force serial number 91-0001*) from Dobbins ARB in Marietta, Georgia. Beesley is the only test pilot to fly both the YF-22 prototype and a production F-22.

1998

5 FEBRUARY Raptor 01 arrives at the Air Force Flight Test Center at Edwards AFB, California, aboard a C-5 Galaxy from Westover ARB, Massachusetts. The F-22 was partially disassembled for the flight.

17 MAY Raptor 01 is flown for the first time at Edwards AFB. The 1.5-hour flight is the third flight for the aircraft and the first for a US Air Force pilot, in this case, Lt. Col. Steve Rainey.

29 JUNE Chief test pilot Paul Metz flies Raptor 02 (Air Force serial number 91-4002) for its inaugural flight, which takes place from Dobbins ARB.

9 JULY Boeing chief test pilot Chuck Killberg makes his first flight in the F-22.

10 JULY The Air Force awards the Lockheed Martin-Boeing team two contracts for advanced procurement and program support for two F-22 Production Representative Test Vehicles, or PRTV, aircraft.

30 JULY An F-22 is refueled in flight for the first time at the Air Force Flight Test Center at Edwards AFB. The tanker is a KC-135 Stratotanker.

26 AUGUST Lt. Col. Steve Rainey flies Raptor 02 nonstop to Edwards AFB from Marietta. During the four-hour flight, Rainey reaches an altitude of 28,000 feet and a speed of 325 knots.

10 OCTOBER An F-22 is flown supersonically for the first time during a flight from Edwards AFB. Lockheed Martin test pilot Jon Beesley reaches a speed of Mach 1.1 at 29,000 feet in Raptor 01 for Flight 31 of the aircraft.

23 NOVEMBER Air Force pilot Lt. Col. David Nelson pushes the F-22 during a 3.1-hour mission to the 183-flight-hour mark mandated by the US Congress before Congress will release funds needed for long lead items for the first six Lot 1 production F-22s.

1999

11 MARCH Boeing begins testing the F-22 Block 1 avionics software package aboard the 757 Flying Test Bed.

29 APRIL The F-22 main and side weapon bay doors are opened for the first time during a single flight.

4 MAY Lockheed Martin test pilot Jon Beesley flies Raptor 02 for the program’s 100th flight test sortie.

24 MAY F-22 100 percent design limit load testing begins at Lockheed Martin in Marietta. Testing on the ground-based static test article, known as Raptor 3999 (or Article 3999), is completed on 25 September 1999.

20 JULY Raptor 01 is used to demonstrate supercruise for the first time at Edwards AFB. Air Force Col. C. D. Moore flies the aircraft at Mach 1.5 for several minutes without the use of afterburners.

25 AUGUST Raptor 02 is flown on a sixty-degree high angle of attack in a flight test at Edwards AFB.

21 DECEMBER Total flight test time for the F-22 program surpasses the 500-hour mark.

*Official US Air Force serial numbers are used to identify aircraft throughout most of this article. Actual aircraft carry only the last three digits of serial numbers, preceded by the fiscal year that particular aircraft was purchased.
2000

**LATE JANUARY** The Air Force announces that Langley AFB, Virginia, is the preferred location for the first operational F-22 wing.

**6 MARCH** Boeing test pilot Chuck Killberg completes the first flight of Raptor 03.

**15 MARCH** Raptor 03, piloted by Lt. Col. Bill Craig, is flown nonstop from Marietta to Edwards AFB.

**8 10 JUNE** The F-22 System Program Office at Wright-Patterson AFB is presented the Daedalian Weapons System Award in Tampa, Florida.

**9 28 JUNE** The F-22’s AN/PG-70 active-element phased array radar is publicly displayed for the first time at Northrop Grumman in Baltimore, Maryland.

**25 JULY** Boeing test pilot Chuck Killberg is at the controls of Raptor 02 for the first launch of an AIM-9 Sidewinder missile from an F-22 at the Naval Air Weapons Station at China Lake, California.

**10 24 OCTOBER** First launch of an AIM-120 AMRAAM from an F-22 (Raptor 02) is carried out at China Lake by Lt. Col. David Nelson.

**2 NOVEMBER** Chief test pilot Paul Metz flies Raptor 01 from Edwards AFB to Wright-Patterson AFB where the aircraft will undergo live-fire testing.

**11 15 NOVEMBER** Lockheed Martin test pilot Bret Luedke completes the first flight of Raptor 04, the first F-22 with a full-up avionics suite.

2001

**5 JANUARY** First flight of Raptor 05 is completed at Marietta. The aircraft is piloted by Boeing test pilot Randy Neville.

**30 JANUARY** Raptor 04, the first avionics aircraft, is ferried to Edwards AFB by Col. Gary Plumb.

**5 FEBRUARY** Lockheed Martin test pilot Al Norman is at the controls for the first flight of Raptor 06.

**12 11 MARCH** Raptor 05 is ferried to Edwards AFB by Maj. Brian Ernisse.

**13 17 APRIL** Chief test pilot Paul Metz successfully launches an AIM-9 missile from an F-22 that is rolling at sixty degrees per second.

**18 APRIL** The F-22 fleet reaches 1,000 flight test hours.

**17 MAY** Col. Gary Plumb flies an F-22 at maximum Mach for the first time (Raptor 03 at Mach 2+).

**14 18 MAY** Raptor 06 is flown from Marietta to Edwards AFB. Full afterburners are used for the first time on takeoff from Marietta.

**13 JUNE** F-22 becomes the first tactical fighter to successfully launch an AIM-9 missile while rolling at 100 degrees per second.

**23 AUGUST** Live-fire testing on Raptor 01 is conducted at Wright-Patterson AFB. The Raptor withstands a 23mm high-explosive incendiary round fired at its fully fueled wing tank.

**21 SEPTEMBER** The first guided AIM-120 AMRAAM missile launch is successfully completed (Raptor 05).

**15 OCTOBER** Raptor 07 is flown for the first time.

2002

**15 1 FEBRUARY** Lt. Col. David Nelson is at the controls for the first time that a Raptor pulls nine g’s (Raptor 03).
8 FEBRUARY Raptor 08 is flown for the first time.

16 28 MAY Raptor 04 is ferried to Eglin AFB, Florida, for extreme temperature and environmental condition testing at the McKinley Climatic Laboratory.

7 JUNE Raptor flight test program completes 2,000 hours.

11 JUNE Raptor 09 completes dedicated ground-based logistics test and evaluation.

17 25 JULY Lt. Col. Chris Short is at the controls of Raptor 03 for the first F-22 supersonic missile launch, an AIM-9 launched at Mach 1.11 at China Lake.

21 AUGUST Lt. Col. Eddie Cabrera is at the controls of Raptor 03 for the first supersonic separation test of an AIM-120 AMRAAM at Mach 1.19.

18 17 SEPTEMBER The Air Force changes the Raptor’s Mission Design Series designation from F-22 to F/A-22, highlighting the aircraft’s multimission capability.

12 OCTOBER Raptor 10 (Air Force serial number 99-4010) is flown for the first time.

19 5 NOVEMBER Maj. Jim Dutton conducts the first guided supersonic missile launch of an AIM-120 AMRAAM from Raptor 07.

30 DECEMBER Raptor 09 is flown for the first time.

2003

14 JANUARY AF Air Combat Command receives its first F/A-22 (00-4012) when the aircraft is delivered to the 422nd Test and Evaluation Squadron at Nellis AFB, Nevada.

14 JANUARY Raptor 09 is ferried from Lockheed Martin in Marietta, Georgia, to Palmdale, California, where it will later receive modifications required for Dedicated Initial Operational Test and Evaluation.

17 JANUARY Lt. Col. David Rose becomes the first operational Air Force pilot to fly the F/A-22. The flight occurs at Nellis AFB.

20 19 FEBRUARY Raptors 06 and 07 successfully demonstrate the capabilities of the Raptor’s Intraflight Data Link, or IFDL, a key component of the fighter’s avionics suite. Pilots Col. Ric Cazessus and Lt. Col. Art McGettrick are at the controls.

21 22 FEBRUARY Lockheed Martin test pilot James Brown fires the F-22’s M61A2 Gatling-type gun in flight for the first time.

28 FEBRUARY The F/A-22 program records its 3,000th flight test hour.

4 MARCH The first Raptor for Dedicated Initial Operational Test and Evaluation is delivered to Edwards AFB.

26 JUNE Raptor 02 is flown four times in one day at Edwards AFB.

29 AUGUST Four test pilots from Edwards AFB perform the first F/A-22 four-ship formation flight and the first four-ship test of the IFDL. A total of seven Raptors in various locations are airborne for the first time.

1 SEPTEMBER The F/A-22 Combined Test Force at Edwards AFB surpasses 4,000 flight test hours.

22 22 SEPTEMBER Lockheed Martin test pilot James Brown makes the first rolling high-g AIM-9 shot (Raptor 03).
23 26 SEPTEMBER Raptor 01-4018 becomes the first operational F/A-22 delivered to the 43rd Fighter Squadron at Tyndall AFB, Florida. Lt. Col. Jeffrey Harrigian, commander of the 43rd, flies the Raptor from Marietta, Georgia.

31 OCTOBER The first local sortie for an F/A-22 takes place at Tyndall AFB.

15 NOVEMBER Raptor 06 is used to complete the first F/A-22 Joint Tactical Information Distribution System interoperability trial with an E-3 Sentry Airborne Warning and Control System aircraft. The trial occurs at Edwards AFB.

24 20 NOVEMBER Pratt & Whitney delivers the 100th F119 engine for the Raptor.

24 NOVEMBER The F/A-22 CTF records two successful guided missile launches at both White Sands Missile Range, New Mexico, and at China Lake.

2004

25 1 JANUARY An F/A-22 Raptor, an F-117 Nighthawk, and a B-2 Spirit make a unique formation of Air Force stealth aircraft over the Rose Bowl stadium in Pasadena, California, during the national anthem at the ninetieth Rose Bowl football game. The Raptor pilot is Col. Joe Lanni.

9 JANUARY The F/A-22 lightning strike test program begins at Marietta with Raptor 01-4022 used for the test program. Testing is completed on 19 January. The aircraft is later restored and delivered to Tyndall AFB.

14 JANUARY Maj. Michael Hoepfner becomes the first pilot to complete F/A-22 transition training at the 43rd FS at Tyndall AFB.

26 23 JANUARY The first multiple missile launch from two F/A-22s (Raptor 05 and 07) is accomplished at Edwards AFB by pilots Lt. Col. Dawn Dunlop and Al Norman.

27 6 FEBRUARY Boeing pilot Fred Knox flies the first Raptor mission with two 600-gallon external fuel tanks on Raptor 02 at Edwards AFB.

9 FEBRUARY The Raptor test program records its 5,000th flight hour.

28 18 MARCH Raptor 03 is used to carry out the first missile separation launches of an AIM-9 and an AIM-120 during the same flight. That same day, the first hot-pit refueling of a Raptor is successfully carried out at Edwards AFB.

19 MARCH Two AIM-120 AMRAAM missiles are ripple launched for the first time from a single F/A-22. Lt. Col. Evan Thomas executes the launch from Raptor 07.

29 22 APRIL Boeing pilot Fred Knox conducts the first F-22 in-flight external fuel tank jettison while flying Raptor 02.

23 APRIL Lt. Col. Evan Thomas in Raptor 03 completes the first separation test of a 1,000-pound GBU-32 Joint Direct Attack Munition, or JDAM, from an F/A-22.

29 APRIL The Air Force announces the start of F/A-22 Initial Operational Test and Evaluation, or IOT&E, at Edwards AFB.


7 JUNE F/A-22 fatigue testing is completed with Raptor 4000 (called Article 4000), one of two airframes built specifically for ground-based testing. The airframe reaches 2.68 equivalent lifetimes or 21,553 hours of spectrum fatigue testing.

30 10 JUNE Testing the F/A-22’s ability to roll and launch AIM-9 heat-seeking short-range missiles is completed. The F/A-22 rolling AIM-9 separation test program, a first for any flight test effort, included a total of seventeen launches across a wide range of conditions.
24 July The F/A-22 CTF at Edwards AFB successfully completes a mission in which a single Raptor ripple launches four AIM-120 AMRAAM missiles. Col. Joe Lanni flies Raptor 05 for this test.

31 27 July An F/A-22 is tested for the first time in Benefield Anechoic Chamber at the Air Force Flight Test Center at Edwards AFB.

32 2 September An F/A-22 drops a 1,000-pound GBU-32 JDAM at Edwards AFB, successfully hitting its designated ground target.

September F/A-22 IOT&E is completed. The Air Force flies a total of 188 sorties using six aircraft during the four months of testing.

33 14 September The 325th Fighter Wing at Tyndall AFB deploys six Raptors to Nellis AFB as a precautionary measure in anticipation of Hurricane Ivan. This large deployment is the first for the F/A-22.

23 September Lockheed Martin test pilot John Fergione performs the first maximum flare release from an F/A-22 flying Raptor 07.

26 October Raptor 00-4016 is used during the first ripple release test to drop two guided GBU-32 JDAMs on two targets several miles apart, successfully hitting both.

34 7 December Maj. Evan Dertien launches multiple guided missile shots from a Raptor for the first time in a single mission. Four AMRAAMS are guided to within lethal range of four separate targets.

20 December Raptor 00-4014 crashes shortly after takeoff at Nellis AFB and is destroyed. The pilot ejects safely.

2005

7 January Five Raptors are ferried together to Tyndall AFB from Lockheed Martin in Marietta. That same day, Raptor 05 is flown from Edwards AFB to Langley AFB where it will be retired from flight status and used as a maintenance trainer by the 1st FW.

35 18 January The first F/A-22 for the 1st FW arrives at Langley AFB. The jet is loaned from the 325th FW at Tyndall AFB, the F/A-22 schoolhouse. The 27th FS commander, Lt. Col. James Hecker, flies the Raptor from Tyndall to Langley.

36 28 January Maj. Charles Corcoran of the 27th FS makes the first F/A-22 sortie from Langley AFB.

6 February Raptors from the 43rd FS at Tyndall AFB fly over Super Bowl XXXIX in Jacksonville, Florida.

February The Air Force announces that the Air Force Operational Test and Evaluation Center rated the Raptor “effective and potentially suitable” during IOT&E. The Air Force notes the operational effectiveness of the F/A-22 is “overwhelmingly effective.”

29 March The Defense Acquisition Board approves full-rate production for the Raptor.

12 May The 1st FW at Langley AFB receives its first operational F/A-22 Raptor (03-4041).

37 14 July Maj. John Teichert drops a JDAM from the main weapon bay of Raptor 06 while flying at supersonic speeds.

38 26 August The fiftieth F/A-22 produced (03-4050) is flown for the first time.
39 29 AUGUST Members of the 422nd Test and Evaluation Squadron at Nellis AFB fly the first F/A-22 Follow-on Operational Test and Evaluation mission. They release JDAMs on the Utah Test and Training Range.

15 SEPTEMBER First planned landing of a Raptor occurs on the dry lakebed at Edwards AFB. The pilot of Raptor 06 is John Fergione.

15 OCTOBER F/A-22s from the 27th FS at Langley deploy to Hill AFB, Utah, for Combat Hammer Exercises. This deployment is the first for an operational F/A-22 squadron. The exercise includes the first supersonic drop of a JDAM by an operational squadron.

40 12 DECEMBER Maj. John Teichert is at the controls of a Raptor making the first supersonic guided release of a 1,000-pound GBU-32 JDAM.

15 DECEMBER The Raptor achieves Initial Operational Capability. The 27th FS is officially declared IOC by Gen. Ronald Keys, commander of Air Combat Command. The declaration proves the Raptor is mission ready. The Raptor’s designation is changed back to F-22 from F/A-22.

27 DECEMBER The F-22 engineering and manufacturing development phase is completed. During EMD, the F-22 completed 3,496 flights totaling more than 7,600 flight hours. The tests included more than 26,000 flight envelope expansion test points and 3,500 avionics mission test points.

2006

41 21 JANUARY F-22s from the 27th FS at Langley AFB perform Operation Noble Eagle missions. The flights mark the first operational missions for the Raptor since achieving Initial Operational Capability.

3 MARCH The first Raptors assigned to the 94th Fighter Squadron, the second operational squadron, arrive at Langley AFB. The aircraft are flown by Lt. Col. Dick Smith and Maj. Kevin Dolata from Lockheed Martin in Marietta to Langley AFB.

42 5 MARCH The F-22 participates for the first time in the Air Force-sponsored Heritage Flight formation training, which is held at Davis-Monthan AFB in Tucson, Arizona.

10 APRIL The F-22 appears for the first time in a civilian airshow while at the annual Sun ‘n Fun show in Lakeland, Florida. During the show, Lt. Col. Michael Shower performs F-22 demonstration routines as well as heritage flights.

14 APRIL The F-22 CTF at Edwards AFB conducts the first flight test of the improved AIM-120D AMRAAM.

43 19 APRIL Raptor 02 is retired after being flown to Tyndall AFB. The airframe is to be used for maintenance training.

44 23 MAY The 1st FW at Langley deploys twelve Raptors, eighteen pilots, and 174 maintainers of its 27th FS to Elmendorf AFB. This deployment is the longest to date for the F-22. The aircraft stay in Alaska for six weeks. During the deployment, one F-22 pilot achieves nine aerial victories on a single mission. The F-22, working with F-15s and F/A-18s, produces a kill ratio of eighty-three to one in one day.

20 SEPTEMBER The 43rd FS at Tyndall AFB—the F-22 Raptor schoolhouse—reaches the 5,000-hour flying mark.

27 SEPTEMBER Congress upholds the existing ban on international sales of the F-22.

45 1 DECEMBER The F-22 officially replaces the F-15 as the aerial platform for the US Air Force East Coast Demonstration Team. Maj. Paul Moga of the 1st FW at Langley AFB becomes the first demonstration pilot for the team.
46 19 January Brig. Gen. Burton Field delivers the last of forty F-22s (05-4085) from Lockheed Martin in Marietta to the 1st FW at Langley AFB.

47 3 February F-22s participate in their first Red Flag exercises at Nellis AFB. The 94th FS from Langley AFB deploys fourteen Raptors and almost 200 personnel. The exercise also involves B-2 Spirit bombers and F-117 Nighthawk attack aircraft.

16 February Twelve Raptors and more than 250 personnel assigned to the 27th FS at Langley AFB arrive at Kadena AB, Japan, as part of a regularly scheduled US Pacific Command rotational assignment. Kadena, on the Japanese island of Okinawa, marks the longest deployment to date for the Raptor (7,700 miles). The 27th flies more than 600 sorties during the three-month deployment. The aircraft return to Langley on 11 May.

27 April Fighter pilots from Japan Air Self-Defense Force practice air-to-air combat against the F-22 for the first time. The joint exercise involves JASDF F-15Cs and F-4s and US Air Force F-15Cs and F-22s.

48 28 April The F-22 performs its first aerial demonstration for the public as part of the Air Force East Coast Demonstration Team. Maj. Paul Moga flies the Raptor in its first public demonstration at Airpower Over Hampton Roads, an airshow at Langley AFB.

8 June F-22 Raptors support Space Shuttle STS-117 launch operations as part of Operation Noble Eagle.

49 8 June The joint contractor and Air Force F-22 Raptor fighter team receive the Robert J. Collier Trophy in ceremonies in Washington, D.C. The Raptor is specifically cited for its performance in the 2006 Northern Edge military exercise. The award, which is given annually by the National Aeronautic Association, is regarded as the most prestigious award in American aviation.

50 20 June The 192nd FW, the Virginia Air National Guard unit now at Langley AFB, becomes the first Guard unit to fly the F-22 Raptor. The unit transitions to the Raptor from the F-16 and moves from its former location at the Richmond International Airport.

12 July The 100th F-22 (05-4100) is flown for the first time.

51 8 August Elmendorf AFB officially welcomes the first of its F-22 Raptor fleet as a six-ship formation lands at the base in Anchorage. The F-22s join the 3rd Wing and are assigned to the 90th FS.

17 August Raptor pilots with the 94th FS from Langley AFB fly a ten-ship formation in celebration of the squadron’s 90th birthday.

29 August Lockheed Martin delivers the 100th F-22 to the Air Force. The milestone aircraft (05-4100) is assigned to the 90th FS at Elmendorf AFB.

52 5 September Maj. Jack Fischer drops a 250-pound GBU-38 Small Diameter Bomb for the first time from a Raptor (Raptor 08) in a weapons separation test flown from Edwards AFB.

53 2 October Air Force Reserve Command officially activates its first F-22 Raptor unit, the 477th Fighter Group (and the 302nd FS), at Elmendorf AFB. The 477th FG, which traces its lineage to the Tuskegee Airmen, is a Reserve Associate unit with the 3rd Wing at Elmendorf.

29 October The 3rd Wing at Elmendorf AFB officially activates its second F-22 squadron—the 525th FS, known as the Bulldogs.
Two Russian Tu-95 Bear-H bombers are intercepted and escorted by two F-22 pilots from the 90th FS at Elmendorf AFB. It is the first operational intercept for the F-22.

Air Force Gen. John D. W. Corley, commander of Air Combat Command, declares the Raptor has reached full operational capability. The commander’s declaration means the integrated 1st FW and Air National Guard 192nd FW team at Langley AFB possess sufficient Raptors, equipment, and trained Airmen to be combat capable and deployable.

Raptor 03 is formally inducted into the National Museum of the US Air Force at Wright-Patterson AFB. This Raptor is the first to go on public display.

Eight F-22s and 132 Airmen deploy from Elmendorf AFB to Tyndall AFB to participate in Combat Archer, a Weapon System Evaluation Program exercise. The Raptor deployment is the first for members of the 3rd Wing and Air Force Reserve Command’s 477th FG.

The third operational F-22 wing stands up in ceremonies at Holloman AFB. The 49th FW’s 7th FS will be the first to operate the Raptor at the base in Alamogordo, New Mexico.

Air Combat Command’s F-22 Raptor Demonstration Team successfully carries out the first Raptor trans-Atlantic deployment. Maj. Paul Moga, demonstration team pilot, flies a practice mission on 11 July at the Royal International Air Tattoo. Moga flies the F-22 again at the Farnborough International Airshow on 14 July.

An F-22 pilot with the 411th Flight Test Squadron at Edwards AFB carries out the first supersonic release of a 250-pound GBU-39 Small Diameter Bomb.

Lockheed Martin test pilot David P. Cooley is killed in the crash of an F-22 Raptor (Raptor 08) while flying a test mission from the Air Force Flight Test Center at Edwards AFB.


Six Raptors and 150 Airmen from Langley AFB participate in Exercise Iron Falcon, a multilateral training exercise in the United Arab Emirates. The exercise marks the first F-22 deployment to the Gulf Region.

The 8th FS at Holloman AFB receives the first of twenty F-22s.

Maj. Drew Allen, a test pilot with the F-22 CTF at Edwards AFB, carries out the first ripple release of four 250-pound GBU-39 Small Diameter Bombs.

A YF-22 prototype goes on display at the Air Force Flight Test Center Museum at Edwards AFB. The YF-22, previously on display at the National Museum of the US Air Force at Wright-Patterson AFB, was airlifted via C-5 Galaxy transport.

Top military, government, and local officials formally dedicate two F-22s—appropriately adorned with traditional leis—in ceremonies at Joint Base Pearl Harbor-Hickam, inaugurating the base as the newest home for the Raptor. The Raptors are assigned to the 199th FS, the Hawaii Air National Guard unit at Hickam.
29 JULY The Air Force announces an F-22 fleet consolidation. While no final decision has been made, it is anticipated the 7th FS at Holloman AFB will relocate to Tyndall AFB. The 8th FS at Holloman will be deactivated, and its aircraft will be redistributed.


4 OCTOBER Officials from the 19th FS, which had been based at Hickam Field since 7 December 1941, hold a realignment and assumption of command ceremony at Joint Base Pearl Harbor-Hickam. The 19th FS is an active-duty Associate unit with the 199th FS, the Hawaii Air National Guard unit at the joint base.

26 NOVEMBER Air Force Capt. Jeffrey Haney is killed in the crash of an F-22 Raptor (04-4125) during a night training mission from Elmendorf AFB.

2011

62 18 MARCH An Air Force F-22 is successfully flown at supercruise speeds fueled by a 50-50 blend of conventional petroleum-based JP-8 and biofuel derived from camelina, a weed-like plant not used as a food source.

3 MAY Gen. William M. Fraser III, commander of Air Combat Command, announces that the entire F-22 fleet will be grounded as a safety precaution. The announcement follows twelve separate incidents reported over a three-year period in which pilots experienced hypoxia-like symptoms.

63 13 MAY The 8th FS, the active-duty F-22 unit at Holloman AFB, is officially inactivated, marking only the second time in the squadron’s sixty-one year history that it has been inactive.

64 19 SEPTEMBER Secretary of the Air Force Michael Donley and Chief of Staff Gen. Norton Schwartz approve an implementation plan developed by Air Combat Command officials to allow the F-22 Raptor to resume flight operations after a four-month stand down. Flights at all F-22 bases resume shortly after the announcement.

65 4 NOVEMBER Lt. Col. David Pifferario, commander of Air Force Reserve Command’s 302nd FS at JB Elmendorf-Richardson, Alaska, becomes the first pilot to reach 1,000 flight hours in the F-22 Raptor.

7 DECEMBER Ten Hickam Field survivors and current Air Force Airmen and their families gather at the historic flagpole at Hickam AFB for the seventieth annual Pearl Harbor Day Remembrance Ceremony. The morning ceremony featured four 19th and 199th Fighter Squadron F-22 pilots carrying out the Missing Man formation.

2012

66 6 APRIL Lockheed Martin test pilot James Brown becomes the second Raptor pilot to record 1,000 flight hours. His milestone flight occurs at Edwards AFB.

67 2 MAY The 195th and final F-22 Raptor (10-4195) is delivered to the Air Force in ceremonies at Lockheed Martin in Marietta. The aircraft is delivered to the 525th FS at JB Elmendorf-Richardson on 5 May.  

A more detailed version of this chronology can be found at www.codeonemagazine.com.
On 23 October 1962, four aircrews from VP-8 and four aircrews from Patrol Squadron 44 (VP-44) began enforcing President John F. Kennedy's blockade of Cuba to prevent Soviet missiles from reaching Cuba. The P-3 crews patrolled the Atlantic sea lanes to locate and track Soviet cargo ships carrying intermediate range ballistic missiles or missile launch support equipment.

By the time the Cuban Missile Crisis ended a few days later, a VP-44 crew achieved international recognition of sorts when their aircraft was photographed flying close surveillance over the Russian freighter Anasov on its return to the Soviet Union. Anasov was the only Russian vessel that refused to uncover the large oblong objects lashed to its deck. The Orion crew was able to verify that the objects were indeed crated missiles, and the ship was allowed to proceed.

The P-3 came about as a response to Navy Type Specification #146 issued in 1957 for a new land-based antisubmarine warfare, or ASW, aircraft to replace the Lockheed P2V Neptune land-based maritime patrol aircraft and the Martin P5M Marlin flying boat. Very specific requirements pertaining to delivery schedule and cost constraints dictated the need for adapting an off-the-shelf aircraft design for the maritime patrol mission.

The competitors were Martin, Consolidated, and Lockheed, three companies that had been building patrol aircraft for the Navy for more than...
three decades at that point. The French Atlantique, developed with the help of US Navy funds, did not meet the stated range requirement and was eliminated from the competition.

The Lockheed proposal highlighted the Electra airliner’s turboprop engines and its capability for high-speed transit at high altitudes, low speed, low-altitude handling qualities, and fuel economy. Because the Electra was designed to operate from commercial airports, the Navy did not have to alter any runways. The Lockheed Model 185 retained the wings, tail, and Allison T56-A-1 turboprop engines of the Electra. The new design called for the Electra’s fuselage to be shortened by seven feet, and a weapon bay for mines, conventional or nuclear depth charges, or torpedoes was added.

Lockheed was named as the winner of the competition on 24 April 1958, and the contract was awarded that May. A design problem with the Electra’s propeller and engine mount that resulted in several crashes—a phenomenon called whirl mode—had not surfaced at this point. Once the issue was identified, Lockheed briefed the Navy on proposed fixes, and the service was satisfied. Development continued.

The first aircraft was actually the third production Electra with a mockup of a magnetic anomaly detection, or MAD, boom installed at the rear of the aircraft. The MAD equipment, originally developed in World War II, gives aircraft the ability to detect large metal objects under water. The greatly improved MAD gear in the P-3 is a primary method the crew uses to locate submarines. The demonstrator was an aerodynamic prototype only and still had the airliner’s passenger windows. It was first flown on 19 August 1958, and Lockheed crews made eight flights. This aircraft was again modified into a full-up prototype of what was then designated P3V-1.

The first flight of YP3V-1 prototype came on 25 November 1959 at the Lockheed plant in Burbank, California, where most of the aircraft would be built. The nickname Orion was officially adopted in late 1960, keeping with the Lockheed tradition of naming aircraft after mythological figures or celestial bodies. The first preproduction P3V-1 was flown on 15 April 1961 from the Lockheed plant in Burbank, California.

The Orion represented a new approach to the ASW mission. It was a more spacious aircraft than previous patrol aircraft, with room for a crew of up to a dozen, along with a galley and rest bunks. It was pressurized and air conditioned. The P-3 had enough electrical power to incorporate advanced sensors and avionics. It was the world’s first dedicated maritime patrol aircraft to be powered by turboprop engines. The Orion also had a significantly better weapons system than its predecessors.

The Orion test fleet consisted of six aircraft. Navy Bureau of Inspection and
Survey trials—what today is called operational test and evaluation—took place from April to June 1962 at what was then known as the Naval Air Test Center at NAS Patuxent River, Maryland, and the Naval Weapons Evaluation Facility in Albuquerque, New Mexico.

The first P3V-1s were delivered to VP-8 on 23 July 1962 and to VP-44 on 13 August. Delivery consisted essentially of moving the aircraft on the Pax River ramp, as both squadrons were based there at the time. With the adoption of the new Department of Defense designation system on 18 September 1962, the P3V-1 was redesignated P-3A. The first Naval Reserve squadrons would receive P-3As in 1970.

A total of 158 P-3As were built for the US Navy. The Alphas, as they were called, were equipped with state-of-the-art analog avionic systems, including the first inertial navigation system in a Navy patrol aircraft. The aircraft featured fore and aft AN/APS-80 search radars, an AN/AQA-3 Jezebel passive acoustic signal processor, an AN/ASA-20 Julie echo location system, and the ASR-3, which was designed to sniff for diesel exhaust from snorkeling submarines.

The move-countermove strategy between the superpowers that defined the Cold War was particularly striking in ASW. The emergence of increasingly lethal and quiet Soviet submarines resulted in the need for increasingly more sophisticated navigation, detection, and tracking equipment on the P-3. Throughout its career, the most significant changes made to the Orion were in its sensors and avionics, not to its airframe.

The next major advance in the Orion was P-3B, or Bravo, introduced in 1966. This version featured a first-generation integrated ASW sensor suite and more powerful 4,500 shp T56-A-14 engines. The Heavyweight modification that came at the end of the P-3B production run featured strengthened structural elements, mainly in the wings, to accommodate heavier sensors and weapons.

A total of 125 Bravos were built for the US Navy. Additional aircraft were delivered new to the first international P-3 operators, the air forces—not the navies—of New Zealand in 1966, to Australia in 1968, and to Norway in 1969.

Development of a fully integrated avionics for the P-3C, or Charlie, began in 1966. Dubbed A-NEW, the heart of this system was the Univac 1830A thirty-bit parallel binary airborne digital computer that combined all the collected sensor data in real time. Computerization improved the speed and accuracy of sensor data generation and freed the crew from routine recordkeeping tasks.
Development of this system was accelerated, and VP-49 made the first deployment with the P-3C in July 1970. Much like the Super Bowl, the avionics, navigation, and sensor suite updates to the P-3C variant over the next three decades were seen as being important enough to warrant Roman numerals to differentiate them—Update I, II, II.5, and III. These updates brought a variety of advanced equipment, capabilities, and weapons to the Orion, which kept it ahead of the threat and took advantage of the computer revolution.

As illustrative examples, the P-3C has a chin-mounted electro-optical infrared sensor allowing crews to see and target at night. By contrast, the P-3A had a seventy-million candlepower searchlight under its right wing to locate surface targets. In addition to the ability to fire short range AGM-65 Maverick air-to-surface missiles, the P-3C crew can now launch over-the-horizon AGM-84 Harpoon antiship and AGM-84E Standoff Land Attack Missiles. The P-3 Alphas could launch unguided rockets. The Bravos were the first to be modified to launch guided AGM-12 Bullpup missiles, which gave crews a significantly enhanced ability to attack surface targets.

A total of 266 P-3Cs were built for the US Navy, and 107 Charlies and special mission aircraft were built by Kawasaki Heavy Industries under license in Japan. US production of the P-3C shifted from Burbank to Palmdale, California, in the 1980s and then to Marietta, Georgia, in the early 1990s. The last US-built P-3Cs, eight aircraft for the Republic of Korea Navy, were delivered in 1995. The last Kawasaki-built aircraft were delivered in 1999, closing out thirty-nine years of Orion production.

Total P-3 production, including license-built aircraft, came to 757 aircraft. Today, the worldwide P-3 fleet numbers 435 aircraft flown by twenty-one operators in sixteen countries on five continents, with Taiwan scheduled to join the Orion community with refurbished and rewinged former US Navy aircraft in 2013.

At the height of the Cold War in the 1970s, twenty-four squadrons of US Navy P-3s blanketed the seven seas tracking submarines, primarily Soviet fast attack and ballistic missile boats. Literally millions of sonobuoys—active or passive sensors dropped by parachute into the water to extend the Orion crew’s search area—were launched during the Cold War. An oft-repeated story is of a Soviet admiral who once lamented that if he wanted to know where his submarines were, all he had to do was look for the P-3s flying over them.

For most of its career, the primary mission for US Navy P-3 crews was hunting submarines on missions lasting more than twelve hours. But the Orion carried out other missions as well. Crews from VP-9 at NAS Moffett Field, California, deployed to Vietnam for Operation Market Time in February 1969 for the P-3’s first Pacific deployment. Market Time was the Navy’s coordinated operation to stop the flow of weapons, ammunition, and supplies to Viet Cong forces infiltrating South Vietnam. The EP-3 signals intelligence variant also debuted during Vietnam.

The end of the Cold War brought a dramatic change in mission, as the P-3 was increasingly used in supporting overland missions in surveillance, targeting, and peacekeeping roles.
The Orion crew consists of up to a dozen, including aircrew and sensor operators. A US Navy P-3C equipped with AGM-84 air-to-surface missiles.

Patrol Squadron 8 (VP-8) aircrew members walk to their P-3C Orion aircraft to prepare for their next mission. A P-3C assigned to VP-30, the US Navy Orion training squadron, over a US nuclear submarine near Jacksonville, Florida.

The Magnetic Anomaly Detection, or MAD, boom is shown to good effect in this shot of the first P-3C. The Orion crew consists of up to a dozen, including aircrew and sensor operators. A US Navy P-3C equipped with AGM-84 air-to-surface missiles.
During Desert Storm, P-3 crews monitored shipping lanes while EP-3 crews monitored electrons. But by Operation Allied Force in Kosovo in 1999, Orion crews had further expanded their role to include targeting cruise missiles. During Operation Iraqi Freedom, P-3 crews using surveillance equipment and sensors could determine who or what was on the other side of a hill. Then a Marine riding on board would transmit that information directly to troops in contact on the ground.

But the versatility of the Orion has always been one of its strongest attributes. Today, Norwegian crews do much as they did during the Cold War, monitoring Russian ships and submarines coming out of the ice-free port of Murmansk and protecting Norwegian fishing grounds from poachers. Former Dutch P-3s now owned and operated by Germany are flown on antipiracy missions in Djibouti, while Australian P-3 crews have been conducting overland missions in Afghanistan since 2003.

In addition to military operators, two versions of the P-3 are flown by US Customs and Border Protection primarily for antidrug and homeland security missions. NASA acquired the YP3V prototype in 1966 and flew it until 1993. Today the agency has an NP-3B for scientific research missions. The National Oceanic and Atmospheric Administration, or NOAA, has two WP-3Ds, nicknamed Kermit and Miss Piggy, for weather research.

Although the P-8 is the US Navy’s designated replacement for the P-3, Orion crews will still be on station for several years to come. Upgraded EP-3E ARIES II electronic reconnaissance aircraft will be flown well into the 2020s.

But other operators intend to continue flying their P-3s for many more years. To get the Orion through at least its sixth decade of service, the P-3 Mid-Life Upgrade, or MLU, is a life extension kit that replaces the aircraft’s outer wings, center wing lower section, and horizontal stabilizer with new production components. The MLU removes all current P-3 airframe flight restrictions and provides 15,000 additional flight hours.

The US Navy has thirty-one MLU kits on order. Lockheed Martin builds the outer wings at its Marietta facility, and the kits are installed at the Fleet Readiness Center Southeast, the aviation depot at NAS Jacksonville, Florida. New wings are also being built for P-3s flown by Norway, Canada, Taiwan, and US Customs and Border Protection.

In one respect, the Orion has actually come full circle. The MLU replacement wings today are built on the exact same tooling that was used to build the wings for Bureau Number 148883, the first P3V-1 delivered to VP-8 fifty years ago.

Jeff Rhodes is the associate editor of Code One.
The ceremony opened with a video of test pilot Phil Oestricher narrating his experience of inadvertently conducting first flight of the YF-16 on 20 January 1974. “We had a full instrumentation system up and running,” Oestricher recalled in the video. “So we learned an incredible amount of data about the airplane on that flight. …Having been involved with the program from the very beginning gives me a great sense of pride. I am thankful to have been a member of the team that reached this remarkable milestone.”

Since the first production orders of F-16 for the US Air Force in 1975, the number of countries that have ordered the aircraft has grown to twenty-six. Fifteen of those countries have combined to make fifty-four repeat buys. The F-16 has also been produced in partnership with companies in Belgium, Netherlands, South Korea, and Turkey. The US Air Force is the largest customer with 2,230 F-16s delivered.

The range of F-16 customers was recognized by Lockheed Martin employees who presented the national flags of countries that have purchased the Fighting Falcon.

Special guests invited to the event included Oestricher; the family of the late Harry Hillaker, credited with the overall
design of the F-16; and the family of the late Neil Anderson, the second test pilot to fly the YF-16 and the pilot to fly the first aerial demonstrations in the aircraft. “I marvel at what this fighter has done, can do, and will do in the future to protect our fighting men and women in our armed services and our most trusted allies around the globe,” said US Representative Kay Granger (R-Texas 12). “The F-16 is in so many regions of the world that the sun never sets on the F-16. That is an amazing testament to this team’s success.” “The F-16 remains the workhorse of the United States Air Force and of many air forces around the world,” added Col. Greg McNew, F-16 development system manager for the US Air Force. “Beginning with General Dynamics and continuing with Lockheed Martin, the F-16 has helped the US Air Force forge relationships with allies around the world, ranging from the early European partnerships through the most recent nation to join—Iraq. The F-16 is a symbol for protecting peace, for maintaining regional stability, and for ensuring the sovereignty of countries worldwide.”

Laura Siebert is the communications representative for the F-16/F-22 Integrated Fighter Group at Lockheed Martin.
The F-35 Flight Test Update in the Volume 27, Number 1 issue of Code One closed with Royal Air Force Sqdn. Ldr. Jim Schofield’s first flight, which, as it turned out, was also the program’s 1,500th flight. Since then, nine new F-35 pilots have qualified, bringing the total to forty-two pilots who have now flown the Lightning II. The growing pilot population has made significant progress testing external weapons on all three F-35 variants, accomplishing first flights with external stores, refueling in flight with external stores, and flying with asymmetric...
weapons loads. The team has also begun night aerial refueling of the F-35 at Edwards AFB, California, and night flight testing of F-35B and F-35C variants at NAS Patuxent River, Maryland.

In the months since the last issue, the System Development and Demonstration, or SDD, test pilots have set new records for the most flights in a month—123 flights in March 2012—and most test points in a month—1,118 in June 2012. Through 30 June 2012, the F-35 test program had conducted 595 test flights in 2012 and accrued 4,830 test points.
1 February 2012
1,500th SDD Flight
The F-35 System Development and Demonstration, or SDD, test fleet surpassed 1,500 total test flights with this takeoff of F-35B BF-2 from NAS Patuxent River, Maryland. Royal Air Force Sqdn. Ldr. Jim Schofield flew the 1.2-hour mission. The milestone does not include the ninety-one test flights of AA-1, the first F-35 test aircraft. Photo by Andy Wolfe

14 February 2012
300th Vertical Landing
US Marine Corps Lt. Col. Fred Schenk executed the program’s 300th vertical landing during a 1.5-hour flight in F-35B BF-1. The flight ended with a vertical landing at NAS Patuxent River, Maryland. It was BF-1 Flight 170. Photo by Andy Wolfe

16 February 2012
First F-35 Flight With External Stores
An F-35A conventional takeoff and landing aircraft at Edwards AFB, California, flew the first external weapons test mission. F-35A test aircraft AF-1 carried two AIM-9X short-range air-to-air missiles on the outboard wing stations and a 2,000-pound GBU-31 satellite-guided bomb and an AIM-120 AMRAAM in each of the aircraft’s two internal weapon bays. US Air Force Lt. Col. Peter Vitt flew the one-hour mission, marking AF-1 Flight 184. Photo by Paul Weatherman

22 February 2012
First F-35B Flight With External Stores
Lockheed Martin test pilot Dan Levin flew an F-35B with external weapons stores for the first time over an Atlantic test range. The 2.2-hour flight measured flying qualities with external pylons carrying inert AIM-9X Sidewinder air-to-air missiles and a centerline 25mm gun pod. The flight from NAS Patuxent River, Maryland, marked Flight 159 for F-35B BF-2. Photo by Michael D. Jackson

28 February 2012
First Phase Of Air Start Testing Complete
US Air Force Maj. Steven Speares flew a 2.1-hour mission on F-35A AF-4 Flight 100 to complete the first phase of air start testing. The testing at Edwards AFB, California, included twenty-nine air starts for a total of forty minutes of engine out gliding time conducted during six flights. Photo by Darin Russell

2 March 2012
First Flight With Block 2A Software
Lockheed Martin test pilot David Nelson flew the first test flight with Block 2A software loaded on F-35A AF-3. Block 2A is enhanced training software that enables initial datalink communication and more mature aircraft systems integration. The two-hour flight at Edwards AFB, California, marked AF-3 Flight 96. Photo by Darin Russell
22 March 2012
First Aerial Refueling At Night
F-35A AF-4 piloted by US Air Force Lt. Col. Peter Vitt rendezvoused with an Air Force KC-135 tanker and successfully received fuel through the F-35's receptacle for the program's first aerial refueling at night. The 3.1-hour sortie marked Flight 103 for F-35A AF-4. Photo by Matthew Short

23 March 2012
Air Force Pilot Becomes Lightning 34
US Air Force test pilot Lt. Col. George Schwartz became the thirty-fourth pilot to fly the F-35 when he took off from Edwards AFB, California, for a 1.2-hour mission on F-35A AF-3 Flight 103. Photo by Paul Weatherman

29 March 2012
F-35B Weapon Pit Drop Testing Complete
The F-35 Integrated Test Force at NAS Patuxent River, Maryland, completed weapons pit drop testing for the F-35B with the ejection of a 500-pound GBU-38 bomb from F-35B BF-3. The ground test was the final bit of data needed to complete the first phase of testing nine different weapon combinations in the F-35's internal weapon bays.

31 March 2012
Most Flights In A Month
The F-35 test team set several new monthly program records in March, including the most test flights (123), most test flight hours (224.1), most F-35C carrier variant flights (thirty-one), and the most flight hours on a single aircraft (35.5 on F-35A AF-2). Photo by Darin Russell

3 April 2012
X-35 Pilot Becomes Lightning 35
US Marine Corps Col. Arthur Tomassetti became the thirty-fifth pilot to fly the F-35 during a 1.2-hour F-35B BF-4 mission at NAS Patuxent River, Maryland. It was his first Joint Strike Fighter flight since 30 July 2001 when he flew a test flight in the X-35B concept demonstrator. Today, Tomassetti is the vice commander of the 33rd Fighter Wing Air Education and Training Command at Eglin AFB, Florida. The mission marked BF-4 Flight 105. Photo by Michael D. Jackson

5 April 2012
First Aerial Refuel With External Stores
US Navy Lt. Christopher Tabert expanded the flight test envelope of the F-35 when he flew the first aerial refueling mission with external weapons loaded on F-35B BF-2. The 3.1-hour flight from NAS Patuxent River, Maryland, included a rendezvous with a Navy KC-13OR to refuel the F-35. The mission marked Flight 171. Photo by Michael D. Jackson

18 April 2012
First Carrier Variant Formation Flight
Two F-35C carrier variant test aircraft launched together from NAS Patuxent River, Maryland, and flew in formation for the first time. F-35C CF-1 and CF-2 were piloted by US Navy Cdr. Eric Buus and US Marine Corps Lt. Col. Matt Taylor, respectively. The mission tested flying qualities of the aircraft during takeoff, landing, and formation flight for more than one hour to mark CF-1 Flight 134 and CF-2 Flight 88. Photo by Andy Wolfe
21 April 2012
First F-35A Aerial Refuel With External Stores
F-35A aircraft AF-4 completed the conventional takeoff and landing
variant’s first inflight refueling mission at Edwards AFB, California,
while configured with external weapons. US Air Force Lt. Col. George
Schwartz, flying an F-35A configured with two inert AIM-9X missiles
and four external pylons, refueled from an Air Force KC-10 tanker.
Internally, the jet carried two GBU-31 Joint Direct Attack Munitions
and two AIM-120 AMRAAMs. The 2.9-hour test mission marked
AF-4 Flight 109. Photo by Tom Reynolds

24 April 2012
Edwards Adds A Pilot
US Air Force Maj. Matthew Phillips flew F-35A AF-3 to become the
thirty-sixth pilot to fly the F-35. The 1.5-hour pilot qualification mission
at Edwards AFB, California, marked AF-3 Flight 113. Photo by Paul Weatherman

3 May 2012
First Carrier Variant Approach Handling Qualities Test
The F-35 Integrated Test Force continued preparations for F-35C carrier
variant ship trials with the first handling approach qualities test at NAS
Patuxent River, Maryland. US Marine Corps Lt. Col. Matt Taylor executed
sixteen touch and goes, one wave off, and two full stop landings during
the 1.4-hour mission. The test marked F-35C CF-3 Flight 53.
Photo by Michael D. Jackson

31 May 2012
750th F-35B Flight
US Air Force Lt. Cdr. Eric Buus flew the F-35 test program’s 750th
flight, a 1.2-hour flutter test from NAS Patuxent River, Maryland.
The test marked F-35B BF-2 Flight 193. Photo by Andy Wolfe

1 June 2012
Edwards Adds Another Pilot
US Air Force Maj. Brent Reinhardt became the thirty-eighth pilot to fly
the F-35 with a 1.6-hour mission at Edwards AFB, California. The check
flight marked F-35A AF-6 Flight 81. Photo by Kevin Robertson

8 June 2012
Lockheed Martin Pilot Qualifies In F-35
Lockheed Martin test pilot Billie Flynn accomplished his first flight at
NAS Fort Worth JRB, Texas. The 0.9-hour pilot qualification mission
marked F-35B BF-5 Flight 34. Photo by Andy Wolfe

9 June 2012
Pax Adds A Navy Pilot
US Navy Lt. Cdr. Michael Burks joined the pilot roster at NAS
Patuxent River, Maryland, as the fortieth F-35 pilot. His 1.1-hour
check ride marked F-35B BF-2 Flight 195. Photo by Andy Wolfe
13 June 2012

First CV Night Flight
US Marine Corps test pilot Lt. Col. Matt Taylor took off in F-35C test aircraft CF-2 for the first night flight for the carrier variant. The flight lasted 1.2 hours and evaluated the aircraft’s night lighting system. The night test marked CF-2 Flight 109. Photo by Layne Laughter

14 June 2012

First Flight With Asymmetric Weapons Load
F-35B test aircraft BF-2 completed the first test flight for the short takeoff/vertical landing variant with an asymmetric weapons load. US Navy Cmdr. Eric Buus flew BF-2 with an inert AIM-9X Sidewinder missile on the starboard pylon, a centerline 25mm gun pod, and a GBU-32 and AIM-120 in the starboard weapon bay. The two-hour flight included two sorties at NAS Patuxent River, Maryland. The test marked BF-2 Flight 197. Photo by Andy Wolfe

20 June 2012

Lockheed Martin Adds Another Pilot
Lockheed Martin test pilot Paul Hattendorf qualified with a 1.2-hour check flight as Lightning 41—the forty-first pilot to fly the F-35. He checked out on F-35B BF-5 Flight 35 from NAS Fort Worth JRB, Texas. Photo by John Wilson

21 June 2012

1,000th Test Flight Hour In 2012
The F-35 test fleet surpassed 1,000 test flight hours in 2012 with six flights at Edwards AFB, California, and at NAS Patuxent River, Maryland, on the same day. F-35A AF-2, AF-6, and AF-7; F-35B BF-2; and F-35C CF-2 logged the hours on 21 June to reach the milestone. Photo by Michael D. Jackson

27 June 2012

First F-35C Flight With External Weapons
The F-35C carrier variant flew for the first time with external weapons with US Navy test pilot Lt. Christopher Tabert at the controls. F-35C CF-1 flew with inert AIM-9X Sidewinder air-to-air missiles on port and starboard pylons to measure flying qualities and aircraft vibrations. The mission was conducted from NAS Patuxent River, Maryland, and lasted 2.2 hours. It marked CF-1 Flight 142. Photo by Andy Wolfe

29 June 2012

Pax Adds Another Pilot
US Marine Corps Maj. Jon Ohman qualified as the most recent F-35 pilot at NAS Patuxent River, Maryland. The 1.8-hour check flight marked F-35C CF-2 Flight 115. Photo by Michael D. Jackson

30 June 2012

Most Test Points In One Month
The Integrated Test Force closed out June with a new program record for the most test points accomplished in one month. The F-35 test fleet was airborne 114 times and completed 1,118 test points. Photo by Darin Russell

Sydney Carroll is a communications representative for the F-35 program at Lockheed Martin and is webmaster of F35.com.

BY SSgt. HEATHER SKINKLE
LOGISTICS
The move to Kandahar involved relocating an entire F-16 operation that had been flying out of Bagram for the last five years. The logistical challenge consisted of quickly moving 600 personnel and more than 170 tons of equipment more than 500 miles.

NIGHT MISSIONS
Approximately half of the combat sorties flown by the 124th EFS were night missions.

OPERATIONS OVERVIEW
The 124th EFS pilots flew a total of 2,668 combat hours in 680 combat sorties in their Block 30 F-16s during the deployment, which covered sixty-one consecutive days of air tasking orders. More impressively, the unit garnered a 100 percent completion rate, meaning that no sorties were lost because of needed maintenance actions.

COLOR MOVING MAP
While all Block 30 F-16s in Air National Guard units have been equipped with color moving maps, the 124th EFS was the first Air National Guard unit to customize its displays for operations in Afghanistan. The maps were supplemented with information on aerial refueling tracks, target areas, forward operating bases, combat outposts, and boundaries of controlling agencies.

OTHER WEAPONS
F-16s from the 124th flew with AIM-120 missiles and various combinations of 500-pound JDAMs, including Versions 1 and 5 of the GPS guided GBU-38 and the laser guided GBU-54.

NEW JDAMS
The Iowa Air Guard was the first F-16 unit to use the GBU-38 Version 5 in combat. This latest version of the Joint Direct Attack Munition, or JDAM, has a bomb casing made of a unique carbon fiber blend. The casing reduces the potential of collateral damage by inhibiting blast fragments from flying outward.

HOMECOMING
Aircraft and personnel returned to the unit’s home base at Des Moines Airport, Iowa, 23 April 2012.

ESTABLISHING OPERATIONS AT A NEW BASE
Making base procedures in Kandahar compatible with F-16 operations required that all checklists, publications, academics, ground training, briefings, intelligence processes, supplements to Air Force instructions, and many other operating procedures be redone to address F-16 operations.

CLOSE AIR SUPPORT
The primary mission of Iowa F-16s in Afghanistan was close air support.
The white fuzzy dice swaying from the fuel system panel added the perfect touch of nostalgia as US Air Force Maj. Brad Salmi, the chief of standardization/evaluation for the 61st Air-lift Squadron, taxied the C-130E out at Little Rock AFB, Arkansas, on 1 May 2012, for its final flight. “This aircraft looks great, is in great shape, and still flies very well,” Salmi noted.

When the crew touched down at Edwards AFB, California, after a leisurely six-hour flight, the career of this C-130E (Air Force serial number 61-2358) had come full circle. What had been the first E-model off the production line in 1961 was now the last E-model to be retired from the active duty Air Force inventory. The aircraft, which had spent many years as a testbed at the Air Force Flight Test Center, was now, appropriately, going to be a static display there.

Development of the C-130E began in 1960 to tailor the Hercules design to fill a need for the US Air Force’s long-range logistics supply role. The goal was to give the C-130 transatlantic range while carrying a useful payload. The E-model featured a strengthened airframe structure to accommodate increased payloads. It also incorporated larger 1,360-gallon external fuel tanks located between the engines, rather than outboard of them, like on the earlier C-130As and Bs.

A total of 488 C-130Es were built from 1961 to 1974 on the then-Lockheed Georgia Company assembly line in Marietta, Georgia. E-model production eclipsed production of the C-130A and B models combined. The C-130E is still the second-most produced version of the Hercules, behind the 1,205 C-130H and H-model derivatives that were built.

In addition to the US Air Force, C-130Es were delivered new to eight international operators, including Australia, Canada, and Saudi Arabia. A number of other countries, including Israel, later obtained C-130Es through transfers or through secondary sales. A number of US Air Force E-models were modified for special missions or were converted into MC-130E Combat Talon Special Operations airlifters. Many of the international E-models are still in operation, as are some of the modified aircraft. Much like the milestone aircraft, the C-130E is still used for combat delivery missions by the 156th Airlift Wing, the Puerto Rico Air National Guard unit at San Juan.

When 61-2358 started down the assembly line, it was going to be a C-130B. When it came out the other end of the assembly line, it had morphed into the initial C-130E. It was also the fleet guinea pig. “This aircraft is a bit of a Frankenstein,” observed CMSgt. Sam Frederick, the 61st AS lead loadmaster, one of two loadmasters on the final flight. “A little bit of everything is on it or has been done to it.”

“This aircraft has had multiple modifications,” added Lt. Col. Dennis King, the instructor navigator on the final flight and the then-commander of the 61st AS. “It came off the line with the side-loading cargo door that was deleted on subsequent C-130s. Among many changes, it was modified with the high-speed cargo ramp and door that were later used on the Combat Talons. Even though it was operational, it never went to Vietnam because it was doing test work.”
At the retirement ceremony prior to the last takeoff, Col. Brian Robinson, the commander of the 19th Airlift Wing, the active duty wing at Little Rock, gave a career summary for 61-2358: “After Edwards, this aircraft spent ten years at NAS El Centro [California] as a flying testbed for the swift-growing C-130E family. Eventually, it left the active duty to join the Air National Guard. Through the next three decades, 61-2358 served in states from Mississippi to California to Michigan.

“Then, in 2003, this aircraft found her way home . . . to the home of the Herk, where it joined the Arkansas Air National Guard’s 189th Airlift Wing,” Robinson added. “Most recently, this Hercules was transferred back to active duty to finish its career. As the oldest Herk in the fleet, she trained the newest C-130 students with the 314th Airlift Wing and rounded out her time performing joint and local training with the 19th Airlift Wing.”

The 314th Airlift Wing is the C-130 aircrew and maintainer training wing, also at Little Rock. This particular C-130E also survived being tossed around the Little Rock flightline when a tornado hit in 2011.

The last operational mission for 61-2358, a local training flight, came on 16 April 2012. It landed Alpha One, the mobility world term for an aircraft that is 100 percent ready to fly again. “I know it sounds a little strange to give an airplane a personality, but it was almost like that aircraft knew it was its last flight,” Salmi stated. “It didn’t want to shut down.”

When the crew shut down at Edwards later that afternoon, C-130E 61-2358 totaled 18,465 flight hours on its airframe and had made a total of 12,929 landings. It also had a replacement crash axe aboard—the original was presented as a memento to 19th Aircraft Maintenance Squadron during the retirement ceremony—a large box of maintenance records covering fifty-one years of service and the one nonstandard piece of equipment on the flight deck.

“The C-130E is like an old muscle car,” Frederick concluded. “It only has mechanical controls. It doesn’t have state-of-the-art avionics. And it required more troubleshooting on the part of maintenance to fix it. It’s called a legacy Hercules. I’d call it a classic.”

Jeff Rhodes is the associate editor of Code One.
Western Wildfires

All four US C-130 units equipped with the Modular Airborne Fire Fighting System, or MAFFS, were activated to fight wildfires in Colorado and the western US in late June. As of 6 July, MAFFS crews had released more than 332,400 gallons of retardant on 140 airdrop missions. However, tragedy struck on 1 July 2012 when a C-130H from 145th Airlift Wing, the North Carolina Air National Guard unit in Charlotte, crashed fighting a fire in South Dakota. Lt. Col. Paul K. Mikeal, Maj. Joseph M. McCormick, Maj. Ryan S. David, and SMSgt. Robert S. Cannon were killed. Two other crew members survived. The accident, the first MAFFS crews have suffered in nearly forty years of assisting US Forest Service firefighting operations, is under investigation.

Distinguished Flying Cross Awarded

Maj. John Caldwell, an F-16 pilot assigned to the 85th Test and Evaluation Squadron at Eglin AFB, Florida, was awarded the Distinguished Flying Cross in ceremonies on 25 June 2012. He was cited for his rapid response to an enemy attack on American and allied forces during a 2011 deployment to Nuristan Province, Afghanistan. Caldwell, then a captain, responded to an ambush 2 May 2011 on a Special Operations team taking casualties from enemy fire. This timely attack allowed the assault team to regroup. In the medal citation, the assault force commander was quoted as saying that, “The presence of Caldwell and his immensely accurate awareness of the situation prevented a catastrophic loss of American lives and directly turned the tide of this engagement.”

C-5 AMP Complete

The seventy-ninth and final C-5 Galaxy aircraft modified under the Avionics Modernization Program, or AMP, was redelivered to the US Air Force in ceremonies at Travis AFB, California, on 27 April 2012. AMP, the first part of a two-phase C-5 modernization effort, began in 1998 and incorporates a glass cockpit with digital avionics, a new mission computer and autopilot, and also includes air traffic management equipment. The second phase of the C-5 modernization effort is the Reliability Enhancement and Re-engining Program. Fifty-two of the C-5s that received the AMP modifications will be further upgraded to the C-5M Super Galaxy standard. The final AMP aircraft (Air Force serial number 70-0448) is assigned to the 433rd Airlift Wing at JB San Antonio-Lackland, Texas.

Newest Raptor Pilot

US Air Force Gen. Mike Hostage, the commander of Air Combat Command, completed F-22 Raptor pilot qualification at Tyndall AFB, Florida, on 27 June 2012. Hostage said he wanted to reinforce his personal stake in the Air Force’s efforts to identify the root cause of unexplained physiological incidents involving a few Raptor pilots. “I’m asking these Airmen to assume some risk that exceeds the norm, and I have to be willing to do it myself,” Hostage said. “Flying the airplane allows me to understand exactly what our Airmen are dealing with. It’s amazing to fly. I’m confident in the procedures we have in place to help enhance crew safety.” The 43rd Fighter Squadron at Tyndall conducts F-22 pilot training.
Dover Goes All M

The 709th Airlift Squadron, the US Air Force Reserve Command C-5 Galaxy unit at Dover AFB, Delaware, completed its final C-5B mission on 5 April 2012. The squadron is now officially a C-5M Super Galaxy squadron, sharing aircraft with the 9th Airlift Squadron, the active duty C-5M unit at Dover. The last 709th AS mission lasted twelve days, with the crew moving more than 500,000 pounds of cargo out of Afghanistan and points in Europe. That aircraft was later transferred to Travis AFB, California. The 9th AS completed its last C-5B mission on 12 March 2012 after flying to the Middle East. The aircraft was given a ceremonial hosing down when the crew returned home.

UK Opt For F-35B

United Kingdom Defence Secretary Philip Hammond announced on 9 May 2012 that both the Royal Air Force and the Royal Navy will now operate only the F-35B short takeoff/vertical landing variant instead of the F-35C carrier variant. Hammond noted several reasons for switching back to the F-35B, including: sticking with the F-35C would delay the planned Carrier Strike effort by three years to 2023; the cost of fitting catapults and arrestor gear to the Queen Elizabeth-class carriers had doubled to approximately £2 billion (approximately US$3.1 billion); and operating the STOVL aircraft offers the UK the ability to have continuous carrier availability. Flight trials with the F-35B off the HMS Queen Elizabeth are scheduled to begin in 2018.

Last Canadian Super Hercules Delivered

The Royal Canadian Air Force formally accepted the seventeenth CC-130J Super Hercules at the Lockheed Martin facility in Marietta, Georgia, in ceremonies on 8 May 2012. This delivery completes an order placed in December 2007. Deliveries began in June 2010. This aircraft (RCAF serial number 130617) was flown to its operating base at 8 Wing Trenton, Ontario, on 11 May. To date, Lockheed Martin has delivered more than $350 million in industrial and regional benefits to Canadian industry as a result of the Government of Canada’s procurement of the CC-130J aircraft and in-service support.

Ride Of The Super Herks

The largest C-130J Super Hercules formation flight in history was carried out on 2 July 2012 as sixteen crews from the 317th Airlift Group at Dyess AFB, Texas, took part in a mass air-drop training exercise. The simulated mission was an airdrop above two different drop zones. The first drop reinforced ground troops, and the second drop placed heavy equipment on a drop zone to set up a headquarters area. The two C-130J flying units at Dyess, the 39th and 40th Airlift Squadrons, now operate twenty-one Super Hercules aircraft with another seven aircraft scheduled to be delivered. When deliveries are completed by mid 2013, Dyess will have the largest C-130J fleet in the world.
Out Of The Deep Freeze

The 33rd Fighter Wing at Eglin AFB, Florida, the F-35 Integrated Training Center, flew its first local Lightning II sortie on 6 March 2012. US Air Force Lt. Col. Eric Smith, director of operations for the 58th Fighter Squadron, was the pilot of the F-35 (Air Force serial number 08-0750). An F-16 chase plane was piloted by Lt. Col. Lee Kloos, the 58th FS commander. During the flight, a small amount of fluid was observed venting from the F-35. Smith, following standard procedures, returned safely back to base after a twenty-minute flight. After this first flight, the wing planned to build up F-35 flights with a goal of flying twice a week before steadily increasing sorties.

More Schoolhouse Jets

The twelfth F-35 Lightning II for the fleet at Eglin AFB, Florida, was ferried from the Lockheed Martin facility in Fort Worth, Texas, on 15 May 2012. US Marine Corps pilot Lt. Col. Fred Schenk piloted the aircraft (Bureau Number 168062) on the ninety-minute flight. It joined two production F-35B Lightning II short takeoff/vertical landing fighters that were ferried to Eglin on 10 April. Marine Maj. Joseph Bachmann, Fighter Attack Training Squadron 501 (VMFAT-501) aircraft maintenance officer, flew as wingman. The pilots, both the first in their service qualified to fly the F-35, were validating pilot syllabus objectives in preparation for future training. The 33rd FW is responsible for F-35A/B/C pilot and maintainer training for the US Marine Corps, Navy, Air Force, and, in the future, at least eight coalition partners.

Eglin Formation Flight

Two US pilots from the 33rd Fighter Wing flew over the training range near Eglin AFB during the unit’s first F-35 formation flight on 10 April 2012. Lt. Col. Eric Smith, the 58th Fighter Squadron director of operations, flew the lead F-35A while Marine Maj. Joseph Bachmann, Fighter Attack Training Squadron 501 (VMFAT-501) aircraft maintenance officer, flew as wingman. The pilots, both the first in their service qualified to fly the F-35, were validating pilot syllabus objectives in preparation for future training. The 33rd FW is responsible for F-35A/B/C pilot and maintainer training for the US Marine Corps, Navy, Air Force, and, in the future, at least eight coalition partners.

First Local Lightning II Flight

Operation Deep Freeze, the US military’s support to science and research activities conducted by the US Antarctic Program, wrapped up another successful season on 30 March 2012. During the 2011-2012 season, crews flying six ski-equipped LC-130H Hercules aircraft from the 109th Airlift Wing, Stratton ANGB, in Scotia, New York, carried out 359 missions between McMurdo Station, Antarctica, and eighteen inland Antarctic destinations, transporting more than seven million pounds of cargo and fuel and more than 1,600 passengers. The LC-130H crews were also called on to provide aerial reconnaissance and communication links to a disabled Russian vessel, allowing for a Royal New Zealand Air Force C-130 crew to later airdrop three parcels on an ice floe next to the ailing ship.

PHOTO BY SAMUEL KING JR.

PHOTO BY CAPT. RYAN SEYMOUR

PHOTOS BY FRED CLINGERMAN (TOP) AND ANGEL DELGADO (BOTTOM)
**2K U-2 Pilot**

The thirtieth pilot in the fifty-seven year history of the U-2 Dragon Lady high altitude reconnaissance aircraft reached the 2,000-flight hour milestone during a flight over Southwest Asia on 10 February 2012. The pilot, flying from an unspecified base in theater, is deployed from Beale AFB, California, and is flying with the 99th Expeditionary Reconnaissance Squadron. A native of Mobile, Alabama, the pilot, whose name was not released for operational security reasons, has been flying U-2s for ten years. He also has 1,900 flight hours as a B-52 bomber pilot. More than 900 pilots have flown the U-2 over its history, but only four have recorded 2,500 flight hours.

**Fishing Vessel Rescue**

A deployed US Navy P-3 Orion crew assisted in the rescue of ten Taiwanese fishermen approximately 700 miles off Guam on 21 April 2012. US Coast Guard Sector Guam received an initial alert from the *Hsin Man Chun*, a seventy-foot long Taiwanese fishing vessel that was on fire. Coast Guard officials then contacted the Orion crew, which located the vessel and spotted eight crew members in a life raft with two crew members still on the vessel’s bridge. The P-3 crew deployed two life rafts and survival kits to assist the fishermen. The *Hsin Man Chun* crew was later rescued by a passing cargo ship. The Orion crew is assigned to Patrol Squadron 1 (VP-1) at NAS Whidbey Island, Washington.

**Name Change**

US Air Force Special Operations Command officials announced a popular name change for the MC-130J special operations tanker/airlifter on 9 March 2012. The new nickname, Commando II, honors the Air Commando legacy as well as the legacy of the World War II-era Curtiss C-46 transport, the original Commando. Lt. Gen. Eric Fiel, AFSCOC commander, in the memorandum requesting the change, noted the new name “embodies the broader lineage of special operations force aircraft.” The MC-130J was previously known as Combat Shadow II. Alternate names considered included Combat Knife and Combat Arrow. The process for requesting the name change began in September 2011 and was reviewed by the Air Force Judge Advocate General and the Secretary of the Air Force Public Affairs.

**JB 1K**

Lockheed Martin F-22 Chief Test Pilot James Brown reached the 1,000-flight hour mark on 6 April 2012 during a flight at the Air Force Flight Test Center at Edwards AFB, California. He is the second pilot in history to reach 1,000 flight hours in the Raptor. Brown has been flying the Raptor for Lockheed Martin since 2002. Brown joined Lockheed Martin in 1994 after fourteen years in the US Air Force where he flew F-4s, F-5s, and F-15s. Prior to coming to the Raptor, he was a company F-117 test pilot. His milestone accomplishment in the F-22 was recognized with a ritual dousing of cold water from teammates at Edwards after landing.

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Thracian Star 2012
More than two dozen US F-16 pilots from the 555th and 510th Fighter Squadrons along with 500 other Airmen from Aviano AB, Italy, trained with Bulgarian Air Force MiG-21 and MiG-29 pilots during Thracian Star 2012, a month-long exercise that began 18 April 2012 at Graf Ignatievo AFB, Bulgaria. During the exercise, Aviano pilots spent more than 555 sorties over sixteen flying days carrying out close air support, basic fighter and air combat maneuvers, tactical intercepts, defensive counterair, and large force missions with their Bulgarian counterparts. The pilots were also given the opportunity to fly in their counterparts’ aircraft. The goal of the exercise was to strengthen partnerships and to increase interoperability between NATO allies.

Raptors At Red Flag-Alaska
The F-22 Raptor air dominance fighter was flown in a Red Flag-Alaska exercise for the first time in June. Airmen from both the active duty 525th Fighter Squadron and the Reserve Associate 302nd FS at JB Elmendorf-Richardson, Alaska, took part in Red Flag-Alaska 12-2, which ran from 6 to 22 June 2012 over the Joint Pacific-Alaska Range Complex near Eielson AFB, Alaska. The Raptor pilots flew eighty sorties during the exercise, performing counterair missions and flying top cover for Australian, German, Japanese, Polish, and North Atlantic Treaty Organization aircraft in realistic combat scenarios. Red Flag-Alaska exercises take place three or four times per year.

Historic Landing On Tinian
A US Marine Corps KC-130J crew landed on historic North Field, Tinian, Northern Marianas Islands, on 30 May 2012, marking the first military aircraft to land on this airstrip since US forces left the island in 1947. The crew, assigned to Marine Aerial Refueler Transport Squadron 152 (VMGR-152) at MCAS Iwakuni, Japan, landed on North Field as part of Exercise Geiger Fury 2012, a Marine exercise to execute and assess combined expeditionary operations in an austere environment. At the height of World War II, North Field, with four 8,500-foot long runways, was the busiest airfield in the world. The field was also the launching point for the atomic bomb raids on Imperial Japan.

Extreme Delivery
A C-5 Galaxy crew from the 60th Air Mobility Wing at Travis AFB, California, successfully delivered the second joint-service Advanced Extremely High Frequency, or AEHF, military communications satellite from Moffett Federal Airfield near the Lockheed Martin facility in Sunnyvale, California, to the Shuttle Landing Facility at the Kennedy Space Center in Florida, on 13 February 2012. The AEHF satellites will provide survivable, global, secure, protected, and jam-resistant communications for high-priority military ground, sea, and air users. The AEHF system is the follow-on to the in-service orbiting Milstar satellites. AEHF-2 lifted off on 4 May from Launch Complex 41 at Cape Canaveral AFS on board an Atlas V launch vehicle.
Picking Up A Dolphin

A C-5A Galaxy crew from the 433rd Airlift Wing, the Air Force Reserve Command unit at JB San Antonio-Lackland, Texas, transported a US Coast Guard HH-65C Dolphin helicopter back to the United States from Cairns, Australia, 6 to 8 May 2012. The USCG Deployable Operations Group requested airlift support for a crew from CGAS North Bend, Oregon, assigned to the cutter USCG Waesche (WMSL-751). The Dolphin crew was providing fishery law enforcement near the American territories in the southwest Pacific. After a stop at JB Pearl Harbor-Hickam, Hawaii, the C-5A crew unloaded the helicopter at Travis AFB, California. The Coast Guard team then used ground transportation to get the partially disassembled helicopter back to Oregon.

Son Tay Raider Retired

The MC-130E Combat Talon I Special Operations airlifter that was the lead aircraft on the 21 August 1970 raid on the North Vietnamese Son Tay prisoner of war camp was retired on 22 June 2012 after more than 23,500 flight hours and forty-seven years of service. For the final flight, the crew used the same radio call sign, Cherry 1, as was used during the raid. The MC-130, nicknamed The Godfather, was flown from Duke Field, Florida, where it had been based, to Cannon AFB, New Mexico, for static display. It is one of four Combat Talons that will be retired in 2012 by the 919th Special Operations Wing, the Air Force Reserve Command unit at Duke Field.

Trident Above

A P-3C Orion crew assigned to Patrol Squadron 26 (VP-26) flies over a formation of ships during operations in the Arabian Gulf on 22 April 2012. The ship formation includes the guided-missile destroyer USS Sterett (DDG-104) and the attack submarine USS Pittsburgh (SSN-725) as well as ships and submarines from partner nations including Great Britain, Pakistan, and Saudi Arabia. Crews and aircraft from VP-26, which is known as the Tridents, were deployed from NAS Jacksonville, Florida, to the US 5th Fleet area of responsibility conducting maritime security operations, theater security cooperation efforts, and support missions as part of Operation Enduring Freedom.

32 Squadron Anniversary Celebration

A Royal Australian Air Force King Air 350 crew flew in formation with a museum flight crew in a World War II Lockheed Hudson patrol bomber on 2 June 2012 as part of the anniversary celebration for 32 Squadron, currently the RAAF air combat officer and observer training squadron at RAAF East Sale, Victoria. The Hudson Mk. IVA, owned and flown by the Temora Air Museum, was originally contracted as a US Army Air Forces Lend-Lease A-28 and was delivered to the RAAF on 5 December 1941. The aircraft was restored in 1993. Personnel from 32 Squadron, hastily formed at Port Moresby in February 1942, began reconnaissance and bomber operations in the Hudson on the day the unit was formed.

Posthumous Silver Star

More than fifty years after his U-2 Dragon Lady high altitude reconnaissance aircraft was shot down over the former Soviet Union, former US Air Force Capt. Francis Gary Powers posthumously received the Silver Star during a Pentagon ceremony on 15 June 2012. Powers, who died in a civilian helicopter crash in 1977, was cited for heroism displayed while being held as a captive by the Soviets from May 1960 to February 1962. Air Force Chief of Staff Gen. Norton Schwartz presented the medal to Powers’ grandson, Francis Gary Powers III, and granddaughter, Lindsey Berry, before more than 100 family members, friends, and service members. The Silver Star, awarded since 1932, is the third highest US military decoration for valor in combat.

Many more NEWS Items can be found at www.codeonemagazine.com/news.html.
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Golden Orion
Iowa F-16s In Kandahar
First C-130E Retired