421st FIGHTER SQUADRON

MISSION

As part of the world's largest Block 40 Common Configuration Improvement Program (CCIP) F-16CG wing, the 421st Fighter Squadron conducts flying operations to maintain combat readiness of a 24-aircraft F-16CG squadron. It prepares to deploy worldwide to conduct Day/Night air superiority and precision strike sorties employing laser-guided and inertially aided munitions during contingencies and combat.

LINEAGE

421st Night Fighter Squadron constituted, 30 Apr 1943
Activated, 1 May 1943
Inactivated, 20 Feb 1947
Redesignated 421st Tactical Fighter Squadron and activated, 13 Apr 1962
Organized, 8 Jul 1962
Redesignated 421st Fighter Squadron, 1 Nov 1991

STATIONS

Orlando, FL, 1 May 1943
Kissimmee AAFld, FL, 4 Oct–7 Nov 1943
Milne Bay, New Guinea, 4 Jan 1944
Nadzab, New Guinea, 1 Feb 1944 (detachment operated from Wakde, 28 May–21 Sep 1944)
Owi, Schouten Islands, 28 Jun 1944
Tacloban, Leyte, 25 Oct 1944
San Marcelino, Luzon, 8 Feb 1945 (detachment operated from Tacloban, Leyte, 9 Feb–23 Mar 1945)
Clark Field, Luzon, 26 Apr 1945
Ie Shima, 24 Jul 1945
Itazuke, Japan, 25 Nov 1945–20 Feb 1947
George AFB, CA, 8 Jul 1962
McConnell AFB, KS, 21 Jul 1964–Nov 1965

Korat RTAFB, Thailand, 20 Nov 1965–25 Apr 1967
MacDill AFB, FL, 25 Apr 1967
Homestead AFB, FL, 1 Jul 1967
McConnell AFB, KS, 14 Dec 1967–16 Apr 1969
Da Nang AB, South Vietnam, 16 Apr 1969
Takhli RTAFB, Thailand, 27 Jun 1972
Udorn RTAFB, Thailand, 31 Oct 1972
Clark AB, Philippines, 13–23 Dec 1975
Hill AFB, UT, 23 Dec 1975

DEPLOYED STATIONS
Incirlik AB, Turkey, 18 Sep–19 Nov 1964
Kadena AB, Okinawa, 7 Apr–27 Aug 1965
Kunsan AB, South Korea, 23 Apr–26 Jun 1969
Central AB, Al Minhad, United Arab Emirates, 28 Aug 1990–27 Mar 1991

ASSIGNMENTS
Air Defense Department, AAF School of Applied Tactics, 1 May 1943
Fifth Air Force, 23 Dec 1943
V Fighter Command, 29 Dec 1943
86th Fighter Wing, c. 1 Feb 1945
V Fighter Command, Apr 1945
315th Composite Wing, 31 May 1946–20 Feb 1947
Tactical Air Command, 13 Apr 1962
355th Tactical Fighter Wing, 8 Jul 1962
835th Air Division, 8 Nov 1965
6234th Tactical Fighter Wing, 20 Nov 1965
388th Tactical Fighter Wing, 8 Apr 1966
15th Tactical Fighter Wing, 25 Apr 1967
4531st Tactical Fighter Wing, 1 Jul 1967
23rd Tactical Fighter Wing, 14 Dec 1967
366th Tactical Fighter Wing, 16 Apr 1969
432nd Tactical Reconnaissance (later, 432nd Tactical Fighter) Wing, 31 Oct 1972
388th Tactical Fighter (later, 388th Fighter) Wing, 23 Dec 1975
388th Operations Group, 1 Dec 1991

ATTACHMENTS
481st Night Fighter Operational Training Group, 17 Jul–7 Nov 1943
388th Tactical Fighter Wing [Deployed], [later, 388th Tactical Fighter Wing (Prov)], 28 Aug 1990–27 Mar 1991

WEAPON SYSTEMS
P–70, 1943–1944
P–38, 1944–1946

P–61, 1944–1947
P-61B
F–105, 1963–1967
F–4, 1969–1975, 1976–1980
F-4C
F-4D
F-4E
F–16, 1980
F-16C
F-16D

COMMANDERS
Maj Walter S. Pharr, 1 May 1943-15 May 1944
Cpt William T. Bradley, 15 May 1944-2 Jan 1945
Cpt Paul R. Zimmer, 2 -15 Jan 1945
Lt Dorrie E. Jones, 15-20 Jan 1945
Cpt Richard D. Kiick, 20 Jan-15 Dec 1945

HONORS
Service Streamers
None

Campaign Streamers
World War II
Air Offensive, Japan
New Guinea
Bismarck Archipelago
Western Pacific
Leyte
Luzon
Southern Philippines

Vietnam
Vietnam Defensive
Vietnam Air
Vietnam Air Offensive
Vietnam Air Offensive, Phase II
Vietnam Summer-Fall, 1969
Vietnam Winter-Spring, 1970
Sanctuary Counteroffensive
Southwest Monsoon
Commando Hunt V
Commando Hunt VI

Commando Hunt VII
Vietnam Ceasefire

Southwest Asia
Defense of Saudi Arabia
Liberation and Defense of Kuwait

Armed Forces Expeditionary Streamers
None

Decorations
Presidential Unit Citation
(Southeast Asia): 20 Nov 1965–8 Apr 1966
10 Mar–24 Apr 1967
1 Apr–26 Jun 1972

Air Force Outstanding Unit Awards with Combat "V" Device
29 Jun–30 Jun 1966
1 Jul 1966–[24 Apr] 1967
[16 Apr]–31 Jul 1969
1 Aug 1969–1 Aug 1970
2 Aug 1970–31 Mar 1972
18 Dec 1972–27 Jan 1973

Republic of Vietnam Gallantry Cross with Palm
8 Apr 1966–28 Jan 1973

Philippine Presidential Unit Citation

EMBLEM

421st Night Fighter Squadron emblem: Over and through a medium blue disc, border yellow orange, edged black, BUGS BUNNY proper, wearing brown aviator's helmet and gray and white goggles, seated in cockpit of caricatured tan aircraft, and holding aloft a carrot proper in the right forepaw, focusing a gray spotlight with white beam with the left forepaw; two gray machine guns emitting fire from muzzle proper in nose of aircraft. (Approved, 13 Dec 1943)

421st Tactical Fighter Squadron emblem approved, Oct 194

421st Fighter Squadron emblem: Or a Black widow spider displayed proper, all within a diminished bordure Sable. (Approved, 27 Oct 1977)

MOTTO

NICKNAME
Black Widows

OPERATIONS
The squadron was activated May 1, 1943, as the 421st Night Fighter Squadron, in Orlando, FL. Following 6 months of flight training, the squadron arrived at Milne Bay, New Guinea, and assumed duty with the 5th Fighter Command, 5th Air Force, in the Southwest Pacific.

For the next 14 months, the squadron and its detachments moved several times throughout New Guinea providing cover for U.S. Army assault landings and shipping reconnaissance.

Flying patrols, the 421st engaged in bombing and strafing while protecting the various new air bases. By the end of November 1944, squadron pilots scored victories flying the Lockheed P-38 Lightning, Douglas P-70 Havoc, and Northrop P-61 Black Widow. The squadron received P-61s, the first fighter designated for night fighting, in June 1944.

In October 1944, squadron personnel moved to the Philippines, and after bitter fighting, established a camp at San Marcelino in February 1945. During the next 6 months, the squadron's activity was intense aerial combat--bombing missions became an everyday

occurrence.

Following the Japanese surrender, the squadron became part of the occupation forces at Itazuke Air Base, Japan. On February 20, 1947, the squadron was inactivated, with 16 victories to its credit.

Fifteen years later, on July 8, 1962, the 421st Tactical Fighter Squadron was activated and named a tactical fighter squadron with the 355th Tactical Fighter Wing, George Air Force Base, Calif. For two years the squadron flew the Republic F-105 Thunderchief.

While deployed to Kadena Air Base, Okinawa, from April to August 1965, flight crews rotated to a sister squadron in Southeast Asia enabling squadron members to gain combat experience.

From April 1966 to April 1967 the 421st TFS was stationed at Korat Royal Thai Air Base, Thailand, with the 388th TFW. For the next two years, the squadron was stationed with three different stateside wings--in name only.

On April 23, 1969, the 421st TFS transferred to Kunsan Air Base, Korea, furnishing McDonnell Douglas F-4 Phantom II's for defense alert. On June 21, 1969, the squadron was transferred to Da Nang Air Base, Republic of Vietnam, and remained there through October 1972, flying 15,420 combat missions.

On October 31, 1972, the unit moved to Udorn Royal Thai Air Force Base, Thailand, with the 432nd Reconnaissance Wing.

Combat missions continued in Vietnam until the cease-fire on January 28, 1973, in Laos until February 1973, and in Cambodia until August 15, 1973. The squadron then changed to a training environment and participated in countless tactical air exercises. During April 1975, squadron pilots participated in the evacuation of Phnom Penh, Cambodia and Saigon, Republic of Vietnam. In May 1975, the squadron flew in tactical missions associated with the recovery of the USS Mayaguez and its crew.

For its tremendous efforts in Southeast Asia, the 421st TFS earned three Presidential Unit Citations, six Air Force Outstanding Unit Awards with "V" devices, the Republic of Vietnam Gallantry Cross Palm, and flies 12 campaign streamers for Southeast Asian duty.

In December 1975, the 388th TFW transferred from Thailand to Hill Air Force Base, and by June 30, 1977, the 421st TFS unit was combat ready.

On December 29, 1978, the squadron was reduced to zero aircraft, yet remained with the 388th until June 1980 when they received their first F-16. The 421st was the second squadron to achieve combat ready status in the F-16.

After attaining combat readiness in the F-16, the 421st TFS was tasked to provide formal

training for pilots transitioning to the F-16. In November 1981, the squadron deployed to Egypt where it trained Egyptian pilots in exercise Bright Star. From July 1, 1982, until January 1, 1983, the 421st TFS had trained pilots from Britain, Egypt, and Pakistan, as well as U.S. pilots. Squadron deployment locations in the 1980's included Egypt, Oman, Norway, Italy, Ecuador, Denmark, Saudi Arabia, and Kuwait.

The 421st FS completed conversion to the new F-16CG Block 40 aircraft in February 1990, the second squadron to do so. On August 30, 1990, the squadron deployed to the Persian Gulf in support of Operations Desert Shield and Desert Storm. On March 20, 1991, the 421st FS redeployed to its home at Hill Air Force Base after distinguishing itself by flying 1,300 combat sorties (1,200 at night) without any losses or battle damage. Since then, the 421st FS has deployed around the world in support of various operations, including Operations Southern Watch, Northern Watch and Noble Eagle.

In August of 2002, the 421st FS transferred all its maintenance personnel to the 388th Aircraft Maintenance Squadron as part of the wing reorganization.

The 421st FS deployed with the 421st Aircraft Maintenance Unit (AMU) to Al Udeid Air Base, Qatar, to support Operation ENDURING FREEDOM and Operation IRAQI FREEDOM from May to September 2003.

The 421st FS and AMU became the first-ever active duty F-16 squadron to deploy to Balad Air Base, Iraq supporting Operation IRAQI FREEDOM from August 2004 to January 2005. The squadron flew over 1,300 sorties. The squadron then returned to Balad Air Base from May to September 2006 flying 1,400 sorties and 6,400 hours.

Now fully modified as CCIP F16CG's, equipped with night vision goggles and the Advanced Targeting Pod, the 421st FS continues its proud combat heritage as a premier night fighter squadron.

On April 12,1969, while the 469th and 34th TFSs were receiving their F-4Es in Thailand, the 4th TFS arrived at DaNang air base, from Eglin AFB, Florida, and became the first F-4E squadron in South Vietnam. Later, on June 26, the 4th TFS was joined at DaNang by the 421 st TFS.

First P-61 received: June 1, 1944
First enemy aircraft destroyed by P-61 crew: July 7, 1944
Squadron total enemy aircraft destroyed by P-61 crews: 13

421st Tactical Fighter Squadron "Fighting Cavaliers"
Korat RTAFB, Thailand, 28 November 1965 - 24 April 1967

While deployed at Kadena AB, Okinawa, April - August 1965, the 421st TFS rotated crews to a sister squadron (the 354th TFS) located in Southeast Asia, enabling personnel to gain combat experience. Moved to Korat RTAFB, Thailand in late November 1965 where it commenced flying

combat missions as of 28 November. The 421st TFS initially reported to the 6234th Tactical Fighter Wing until in April 1966 the 388th TFW was activated at Korat.

On 29 June 1966, the 421st TFS Commander, Major Fred L. Tracy, became the first F-105 pilot to shoot down a North Vietnamese MiG-17. In a 1988 letter to your web author, Lt.Col. Tracy described the eventful mission:

"The mission on 29 June 1966 was a very unusual experience and attests to the ruggedness of the F-105. The 388th was just a part of the total JCS effort against the Hanoi POL complex. Bill Chairsell (then Colonel and Wing C.O.) asked me to check out the new weasel pilot from the #2 position, call sign Crab. Our (Crab's) mission was SAM suppression and consequently we preceeded the main strike force by ten minutes. We had destroyed one SAM site about 12 miles SE of Thud Ridge and were proceeding back up the west side of the ridge to join the main strike force when we were engaged by four MiG-17s. Crab flight's focus was on locating the main strike force and consequently were lax on our scanning. I took 9 rounds of 37- and 23mm before executing a high G barrel roll to the left which placed the MiG in my 12 o'clock position about 200 feet in the lead. Earlier, one of the MiG's 23mm shells came through my cockpit just above the throttle and lodged in the AC power pack behind the instument panel, fortunately it was a dud. This wiped out all my instruments including the gunsight, but the engine and 20mm gatling gun operated perfectly.
I maneuvered to surperimpose my pitot boom over the MiG and squeezed the triggerand saw the 20mm sparkling along the left fuselage and wing root of the MiG, his left wing folded over the tail and in an abrupt left turn he went into a cloud at about 2500 feet AGL. That was mission number 33 over North Vietnam."

Thunderchief pilots and maintainers of the Fighting Cavaliers Squadron were filmed for the award winning documentary "There Is A Way". However, by that time its days as an F-105 Squadron were counted. The 421st remained at Korat until 24 April 1967, when its place was taken by the 44th Tactical Fighter Squadron.

The 'LA' and 'LC' tailcoded F-4Es of the 4th TFS and 421st TFS were assigned in May 1972, even though they were based at Takhli RTAFB, before joining the wing on C October 1972. The 4th TFS, 13th TFS, 421; TFS, 555th TFS and 14th TRS all received the 'UD' tailcode starting in August 1973, although many aircraft were not receded before unit inactivations and transfers. As with many Southeast Asian wings, the application of a common wing tailcode was not accorded a high priority. The 25th TFS replaced the 555th TFS on 14 November 1974, the latter being reassigned to the 405th TTW at Luke AFB, Arizona, to fly the first F-15 Eagles.

On 30 March 2006, at 1415 hours Mountain Daylight Time (2115 Zulu), an F-16CG aircraft, serial number 89-2115, crashed approximately 30 nautical miles southwest of Hill Air Force Base (AFB), Utah, in an unpopulated dry portion of the Great Salt Lake. The Mishap Aircraft (MA) and Mishap Pilot (MP), assigned to the 421st Fighter Squadron, 388th Fighter Wing, Hill AFB, Utah, were participating in a training mission when the MA experienced an engine compressor stall approximately one hour and five minutes after takeoff. Although the stall initially cleared, the

MA was unable to produce the thrust required to maintain level flight. The MP ejected safely and sustained only minor scratches and bruises. There were no civilian injuries or damage to private property. The state land where the aircraft impacted experienced only transient apertures from the impact, and all environmental hazards were contained within eight hours. The mishap mission was briefed as a four-ship Close Air Support upgrade sortie. As the Mishap Flight was preparing to leave the training range, the MP received both auditory cues and cockpit indications of an engine compressor stall. The MP jettisoned his stores, began an immediate climb, and attempted to clear the stall. The engine stall cleared, but the aircraft still exhibited vibrations at all power settings, with extreme vibrations and subsequent engine stall indications at power settings above approximately 85%. When the MP determined he could no longer maintain level flight he initiated a turn toward dry land to avoid ejection over the waters of the Great Salt Lake. The MP ejected over land and sustained only minor injuries during the ejection. The MA was destroyed on impact. The MP was recovered by a civilian Life Flight helicopter from the University of Utah Medical Center. The primary cause of the mishap, supported by clear and convincing evidence, was the failure of the Number 4 bearing assembly within the General Electric (GE) FI 10-GE-100 engine. This failure caused turbine blade-to-shroud interference as evidenced by severe compressor blade tip rub and grooving of the honeycomb seals, which resulted in engine degradation and reduced efficiency to a point insufficient for providing the thrust required to maintain level flight. Distance to the nearest recovery field was beyond the MA's glide capabilities, negating any chance of safely recovering the MA. Post-impact examination of the recovered wreckage indicated the aircraft was structurally intact and all aircraft systems, except the engine, operated normally prior to ground impact.

On 12 June 2003, at 0622 local time, an F-16CG, S/N 88-0424, crashed in the Iraqi AOR. The F-16, assigned to the 421 EFS, deployed from the 388 FW, Hill AFB, was part of a Close Air Support mission supporting the CENTCOM Commander's objectives. The mishap pilot (MP) ejected safely and without injury. The crash site was located in an uninhabited portion of the Iraqi desert. There were no other injuries and, other than the total loss of the mishap aircraft (MA), there was no damage to military or civilian property. The cause of the mishap, supported by clear and convincing evidence, was a combination of trapped external fuel due to an aircraft malfunction coupled with the MP's failure to properly monitor his fuel status. Analysis indicates the trapped fuel condition was caused either by a malfunctioning external vent and pressurization valve, or a combination of a malfunctioning right external refuel/transfer shutoff valve and malfunctioning external fuel transfer override float switch or external fuel transfer override relay. After the final aerial refueling was completed, both external wing tanks on the MA stopped feeding at approximately 2200 lbs of fuel remaining in each tank (4400 lbs total). During the subsequent hour and forty-five minutes of flight, the MP failed to monitor his fuel as required by AFI and TO guidance, thereby missing the fact that his external wing tanks contained trapped fuel. As the MA was approaching the KC-10 for pre-RTB refueling, the engine flamed out due to fuel starvation. The MP ejected safely, and the MA was destroyed upon impact with the ground.

Two additional factors, supported by substantial evidence, contributed to the accident by contributing to the MP's failure to properly monitor his fuel status: CHECKLIST ERROR - The MP

failed to complete step two of the CLIMB/INFLIGHT/OPERATIONAL CHECKS checklist which requires returning the fuel quantity select knob to NORM. By leaving the fuel quantity select knob in EXTERNAL WINGS, the MP prevented proper HUD trapped fuel and bingo warnings which likely would have alerted him of the trapped fuel situation in time to safely recover the aircraft. TASK MISPRIORITIZATION - The MP failed to properly prioritize fuel checks during the period between his last completed refueling and the flameout. While not completely omitting fuel status from his crosscheck, the MP did not place sufficient priority on performing proper fuel checks to notice that the fuel in his external tanks had become trapped.

On 22 June 2009 at approximately 2227 local time (0430 Greenwich Mean Time or Zulu time), an F-16CM aircraft, tail number 89-2108, assigned to the 421st Fighter Squadron, 388th Fighter Wing, Hill Air Force Base, Utah, impacted the ground during controlled flight on the Utah Test and Training Range, approximately 100 nautical miles southwest of Hill Air Force Base. The mishap pilot (MP) did not initiate a recovery nor attempt ejection and was fatally injured upon impact. The mishap aircraft was destroyed upon impact and there was no damage to private property.

The mishap occurred on a night close air support training sortie as part of the unit's preparation for an upcoming Air Expeditionary Force deployment. The flight was conducted in accordance with applicable service and unit guidelines, and the MP and mishap flight lead were current and qualified to perform the planned mission events. The MP had 1,571.9 total flying hours, but was considered inexperienced in the F-16, with 155.6 hours in that aircraft. He was a former T-6 instructor pilot and was on his first operational F-16 assignment. At the time of the mishap, he was attempting a simulated (no actual ordnance) night high-angle strafe (HAS) event with the aid of night vision goggles.

The board president found, by clear and convincing evidence, this mishap was caused by the MP's failure to recognize his altitude during a night HAS attack.

The board president also found the following five factors substantially contributed to the mishap:

1. Limited total experience: Despite the fact that the MP was current, qualified, and appropriately supervised, he had limited experience in this type of event.
2. Channelized attention: The MP channelized his attention on attempting to visually prosecute the attack, to the exclusion of visual and audible cues of a more immediate priority.
3. Breakdown in visual scan: MP failed to perform an effective visual scan of his flight instruments.
4. Expectancy: MP's mental expectation of his aircraft parameters was distinctly different from reality, making it difficult to mentally process data appearing contrary to what he was expecting, altering his perception of the target, ground cues, and altitude indications.

MP inability to distinguish terrain features: Low illumination conditions and lack of contrast made it difficult for the MP to visually distinguish terrain features and recognize his proximity to the ground.

8 August 1984

A USAF General Dynamics F-16A Block 15F Fighting Falcon, *81-0750*, of the 421st Tactical Fighter Squadron, crashed during a training mission in northwest Utah, killing the pilot. Crashed

onto the Utah Test and Training Range killing pilot, First Lieutenant S. Brad Peale. The aircraft suffered a controlled flight into terrain (CFIT).

22 June 2009– An United States Air Force Lockheed Martin F-16CM Fighting Falcon, *89-2108*, from the 421st Fighter Squadron, 388th Fighter Wing, based at Hill Air Force Base, Ogden, Utah crashes on a night training flight on the Utah Test and Training Range. The pilot, Capt. George B. Houghton, dies in the crash which occurred 35 miles (56 km) S of Wendover, Utah.

An Accident Investigation Board found that an F-16CM Fighting Falcon suffered an engine hardware malfunction resulting in its crash into a rural area in the U.S. Central Command Area of Responsibility on March 29. The pilot sustained only minor injuries and has been released back to full duty status. Owners of a field of crops damaged in the mishap, were compensated for their losses. There were no other injuries or damages to other government or private property as a result of the crash. The mishap occurred on an alert scramble two-ship night flight. The AIB president identified a hardware malfunction in the engine as the cause of the aircraft mishap. According to the investigation report, the material failure of at least one turbine blade rendered the engine incapable of providing the necessary thrust to maintain continued flight, which triggered an unrecoverable stall. Evaluation of the recovered engine by structural materials evaluation teams, engine overhaul experts and aerospace engineers concluded that the failure was caused by a turbine blade breaking loose, which subsequently damaged the other blades within the engine. The aircraft and crew were assigned to the 421st Fighter Squadron of the 388th Fighter Wing, Hill Air Force Base, Utah. The total loss to the U.S. Government is estimated at $29.07 million. 2016

Air Force Order of Battle
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Sources
Air Force Historical Research Agency. U.S. Air Force. Maxwell AFB, AL.
The Institute of Heraldry. U.S. Army. Fort Belvoir, VA.
Air Force News. Air Force Public Affairs Agency.