



South Dakota Wing Roundup



CIVIL AIR PATROL • WINTER 2016 • UNITED STATES AIR FORCE AUXILIARY



The Civil Air Patrol came into being on 1 December 1941 when Fiorello La Guardia, the Director of the U.S. Office of Civilian Defense, signed Executive Order #9. On that same day each of the then 48 states was designated a Civil Air Patrol Wing. Thus South Dakota Wing also came into being on 1 December 1941 and along with its parent organization celebrated its 75th Anniversary of service to our communities, our state and our nation in 2016.



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2016 Joint Dakotas Cadet Leadership Encampment

*By Maj. Bruce Kipp, CAP, SD Wing PAO &
Col. Mary Donley, CAP, Encampment Deputy Commander for Support*

The 2016 Joint Dakotas Cadet Leadership Encampment (JDCLE) was held 25 June to 2 July at Camp Grafton, the North Dakota Army National Guard installation near Devils Lake. The annual JDCLE encampment alternates between Camp Grafton in even numbered years and Camp Rapid, SD in odd numbered years.

The years that the encampments are held at Camp Grafton cadets get the opportunity to ride on a Blackhawk helicopter, rappel down a 42 foot tower, navigate the Leadership Reaction Course and use the Simulated Arms Trainers!

Some 50 cadets and nine senior member officers representing five Wings (Minnesota, Montana, Nebraska, North Dakota and South Dakota) attended this year. The encampment's theme was "Cadet Leadership". Under supervision by the Encampment Commander and his staff, the cadet staff, from Cadet Commander Capt. Devon Brown down to the Flight Sergeants and supernumeraries, planned and conducted the encampment; cadets led and taught cadets.

Some activities at the encampment included military customs and courtesies, drill and ceremonies, physical fitness, small arms marksmanship, field first aid, obstacle and leadership confidence courses, and training on the techniques of leadership. As a senior member you have opportunities to participate right along with the cadets.

Attendance at an encampment is a prerequisite for a cadet to participate in advanced summer opportunities such as flight academies (powered, gliding and hot air ballooning), robotics academy, para-rescue training, etc. Cadets also have the opportunity to return to encampment as cadet staff/instructors.

Cadet Airman 1st Class Ethan Updike of the Crazy Horse Composite Squadron in Custer said, "On the night that



Hanging off the side of the 42-foot tall rappelling tower.



Five Wings were represented at the encampment.



Navigating a simulated casualty through the obstacle course.

we received our certificate of completion I really felt I had accomplished something big! It was a good feeling. I felt that I had been tested in ways I never had before. It was a great experience!”

Col. Mary Donley commented, “There is absolutely nothing more rewarding to me as a former cadet, wing commander, teacher and mother than to see the changes that take place in a cadet once they have attended an encampment.”

From Col. Donley’s perspective as an attendee at many, many encampments, a senior member’s job



Pass-in-Review Encampment Graduation Ceremony.



Cadet Airman 1st Class Amelia Jensen with her "Fleet Foot" award for being the fastest runner at JDCLE.

Nearly 800 photos of the 2016 JDCLE have been uploaded to an album on the SDWG Flickr page. Here is the link: <https://www.flickr.com/photos/102270464@N02/albums/72157668359584314/with/28126760450/>.



On the firing line of the small-arms marksmanship simulator.



Military field rations were a hit with the cadets.



is to help the cadet cadre run a successful encampment. Senior members are there to watch, and advise when necessary to ensure all activities are completed safely. They also help in the areas of logistics, transportation and finance as well as the Encampment Commander, Deputy Commander of Support, Commandant of Cadets and Public Affairs Officer. Cadet Capt. Devon Brown, 2016 JDCLE Cadet Commander, and his staff were instrumental in planning the training, scheduling it and executing it successfully.

The South Dakota Wing expresses its grateful thanks to the Camp Grafton cadre of the North Dakota Army National Guard and especially to the mess hall staff for their outstanding culinary support to our personnel.



Cadets ride in an Army UH-60 Black Hawk helicopter.



Whoops!



Field first aid training.



Commander's Corner

*By Col. David G. Small Jr., CAP
South Dakota Wing Commander*

Hope for the Future



In September I had the pleasure of spending a Saturday with some of our finest cadets while participating in the annual National Character Day. What motivates teenagers to spend their Saturday developing their character? Most young people's (older ones' also) eyes tend to glaze over with boredom when presented with character developing opportunities.

What often escapes notice is that every situation we are presented with, every decision we make, affects our character – and our character affects how we deal with those situations and how we make every decision. Every single thing that we do, word we say and decision we make either strengthens our character or degrades it.

The fact that CAP cadets realize the value of character development speaks volumes about the quality of the young people in our organization. The Civil Air Patrol, through its core

values of Integrity, Volunteer Service, Excellence and Respect has a lot to offer young people today. As CAP officers we are in a unique position in that we can work with cadets as they develop into leaders. I don't know of any other organization that not only teaches values to teens but also entrusts them to contribute to their community through actions such as search and rescue participation.

As the Civil Air Patrol celebrates its 75th anniversary this year the South Dakota Wing is privileged to have one of the original, WWII era cadets still a member, going strong and contributing to CAP's tradition and strength. Lt. Col. Lois Schmidt of the Pierre Composite Squadron joined CAP as a cadet during WWII. As a teenaged young woman Lois looked for an opportunity to serve her country (while being around airplanes) during the turbulent times of WWII. This young teenager had

to learn to identify all combat aircraft, both friendly and enemy. I'm sure that she didn't realize at that time that over seventy years later she would be presented with the Congressional Gold Medal by South Dakota's governor.

Values that Cadet Lois Schmidt embraced during WWII are the same values that cadets are taught today.

To cadets and their parents who are reading this article – thank you. Thank you for caring enough to belong to an institution that will help turn our youth into tomorrow's leaders, leaders who embrace CAP's core values. Today's cadets will ensure that there is a bright future for this country.

If you know any young people between the ages of 12 and 18 I would strongly encourage you to introduce them to the Civil Air Patrol. No guarantees, but who knows, maybe they too, like Lois Schmidt, will one day be recognized for their service.

From Army Air Force to Civil Air Patrol Stinson L-5 “Sentinel”

*By Maj. Bruce Kipp, CAP
South Dakota Wing Assistant Historian*



Stinson L-5B of the Joe Foss Squadron of the Commemorative Air Force in Sioux Falls, SD.

During World War II the Stinson Aircraft Company built 3,600 L-5s for the Army between November 1942 and September 1945 at its factory at Wayne, Michigan, just southwest of Detroit. The aircraft originally entered into Army service with the designation O-62 (“O” for Observation). The designation was changed to L-5 (“L” for Liaison) in 1943. Stinson produced five models of the L-5. The Commemorative Air Forces’ Joe Foss Squadron’s L-5 is a “B” model. 729 L-5B aircraft were produced with a large rear hatch on the right side of the fuselage for loading up to 200 pounds (91 kg) of cargo or a patient on a stretcher.

The unarmed L-5s supported missions such as reconnaissance, aerial photography, controlling vehicle convoys, para-dropping food, medical supplies and ammunition to isolated units, spotting targets for the artillery, as an air ambulance, laying communication wire, distributing propaganda leaflets, spraying pesticide, transporting personnel and prisoners, directing fighter-bombers to ground targets, and even as a light bomber. The L-5 was also popular with Generals and other high-ranking officers for fast, efficient short-range transportation.

The fuselage was constructed of steel tubing covered with doped cotton fabric. The doors are fabric covered plywood. The wings and tail of the aircraft were made of wood also covered with doped fabric. Aluminum was used for the boot cowl and engine cowlings. The main gear legs and tailwheel unit are welded steel.

L-5s came from the factory with a camouflage paint scheme; medium gray on the undersides with olive drab above, broken around the upper edges of the wing and tail surfaces with medium green. The interior of the aircraft was a shade of green. The instrument panels were matte black. Army Air Forces (AAF) insignia were applied to both sides of the fuselage and on the upper left and lower right wingtips. The registration number appeared on both sides of the vertical stabilizer in either yellow or black. Unit identification markings, including nose art, were applied in the field.



SDWG cadet gets an orientation flight in the historic L-5B.

TECHNICAL DETAILS:

- Crew: Pilot and 1 Passenger
- Length: 24 feet 1.25 inch (7.33 meters)
- Wingspan: 34 feet (10.37 meters)
- Height: 7 feet 1 inch (2.13 meters)
- Weight (Unloaded): 1,472 pounds (668 kilograms)
- Maximum Weight: 2,158 pounds (979 kilograms)
- Cargo Capacity: 250 pounds (113.4 kilograms)
- Engine: horizontally opposed, six-cylinder, air-cooled 185 horsepower Lycoming O-435-1
- Maximum Speed: 129 mph (206.4 kmh)
- Cruising Speed: 100 mph (161 kmh)
- Service Ceiling: 15,800 feet (4,816 meters)
- Flight Duration: 3.5 hours
- Flight Range: 450 miles (724 kilometers)
- Armament: None (officially, but might have had a pistol, M1 carbine, smoke or fragmentation grenades)
- AAF Registration #: 44-17191A

HISTORY:

The following information was extracted from fragmentary maintenance reports for this L-5B, AAF #44-17191A. Some of the data has conflicting dates. The information in brackets is supposition.

This L-5B was delivered by the Stinson Company to the Army on 27 December 1944.

The aircraft was [crated and] shipped to England where it arrived at [Unit] B81C of Detachment A of the 9th Base Air Depot Area (BADA) [at Bournemouth] where it was assembled from 4 March to 4 April 1945.

The war in Europe ended when Germany surrendered on 8 May 1945. Most likely this L-5B did not participate in combat operations during the 34 remaining days of the war after it was assembled.

Chronology of post-war activity for L-5B, AAF# 44-17191A. This aircraft was noted at:

US Airfield Y-56, Munchen-Gladbach, Germany from 4 July to 15 July 1945

71st Infantry Division Artillery, Sierning, Austria from 5 August 1945 to 28 February 1946

2nd Cavalry Group, Freising, Germany from 28 February 1946 to 17 July 1947

11th Constabulary Regiment, Regensburg, Germany from 17 July 1947 to 14 June 1950

24th Constabulary Squadron, Bad Hersfeld, Germany from 14 June 1950 to 2 March 1951

It was Army Air Forces policy at that time that aircraft were given minor maintenance as required, intermediate maintenance checks every 30 flying hours and major maintenance performed every 120 hours. From the logs it appears that maintenance was performed at the Army Air Forces' Erding Air Depot at Erding (near Munich) and the Army Air Forces' Echterdingen Air Field (near Stuttgart). This L-5B spent time at both places while assigned to the units listed above.

This L-5B aircraft [returned to the U.S. in March 1951] for a major overhaul by the American Airmotive Corporation in Miami, Florida from 27 March 1951 to 28 January 1952. Following the overhaul the aircraft was sent to NTCD, Newark, New Jersey where it remained from 4 April 1952 to 17 June 1952.

One maintenance log indicates the L-5B was at Mitchell Field on Long Island, New York, when it was transferred to CAP's New York Wing 4 April 1952. The aircraft remained at Mitchell Field from 4 April 1952 to 13 May 1955.

Another aircraft maintenance log has a handwritten entry that the L-5B was at Middleton Air Material Area (MAAMA), Ludlow, Massachusetts from 3 May 1955 to 20 June 1955.



Right side view of the L-5 showing the large hatch of the "B" Model.

Emails have been sent the Civil Air Patrol New York Wing to see what information they might have on this L-5B and how it was used while in CAP service.

The technical details for the L-5B aircraft were provided by Professor Joseph Dondelinger, Department of Government and International Affairs, Augustana University in Sioux Falls, SD and a member of the Joe Foss Squadron of the Commemorative Air Force. 🇺🇸

Seten Receives CAP Distinguished Service Award

*By Maj. Bruce Kipp, CAP
Wing Public Affairs Officer*

Former South Dakota Wing Commander Col. John Seten was honored with the Civil Air Patrol Distinguished Service Award (DSA) at the 2016 Wing Conference held in Pierre in early June. He commanded the South Dakota Wing from June 2012 to June 2016. The award and a plaque were presented to him by Col. Regena Aye, commander of CAP's North Central Region.

The Distinguished Service Award, CAP's top award for service, is the third highest of all the awards that CAP can bestow. It is awarded for conspicuous performance in a clearly outstanding manner in a difficult duty of great responsibility where the position held and results obtained reflect upon the accomplishments and prestige of CAP on a national scale.

The citation that accompanied his award reads: "Colonel John N. Seten, CAP, distinguished himself in outstanding performance of duty from 19 June 2012 through 4 June 2016, as Commander, South Dakota Wing, Civil Air Patrol. During this



Col. Regena Aye presents Col. Seten a plaque commemorating his tenure as commander of South Dakota Wing to accompany his Distinguished Service Award.



Col. Regena Aye pins the award to Col. Seten's coat.

period Colonel Seten's professional skills and innovative leadership abilities contributed greatly to the implementation and success of national policies and programs within the South Dakota Wing. Particularly noteworthy was his efforts to give every member of the South Dakota Wing a clear voice in the goals and the future of the Wing. As a result of Colonel Seten's efforts, every member sensed an "ownership" in the Wing and this feeling led to increased member participation. The overall success that the South Dakota Wing experienced during this period was the result of Colonel Seten's dedication and devotion to duty. Colonel Seten's extraordinary leadership also resulted in a relatively stable membership base with recruiting and retention efforts and directly impacted the Wing's exceptional results in Compliance Inspections and other audits. The singularly distinctive accomplishments of Colonel Seten reflect the highest credit upon himself, the South Dakota Wing and Civil Air Patrol."

National Cadet Special Activity - Pararescue

*By Cadet Lt. Blake Hayden, CAP
Sioux Falls Composite Squadron*

The 7-Day Para-Rescue Orientation Course (PJOC) at Kirtland AFB, New Mexico is a National Cadet Special Activity to introduce participants to the Guardian Angel (GA) Weapon System. The GA Weapon System's primary mission is retrieving individuals in distress, even if they are behind enemy lines. The course is taught by six instructors: four Pararescuemen and two Survival, Evasion, Resistance, and Escape (SERE) Specialists. Pararescuemen and SERE Specialists are each part of the Air Force's special operations units.

While we are not allowed to discuss the details of this course to maintain its mystery to cadets who have not yet attended, I can say that it is without a doubt the most difficult thing many of us had done. Our instructors were professionals, and it's needless to say that they were good at what they do. From the first moment they marched out and we had our first "meet and greet" until the end of the course, it was hardcore and intense.

We learned many of lessons on the ground in the middle of being "dropped" which is when one of the instructors orders us to "drop", and we get in the pushup position and begin to "knock 'em out".

The instructors know that the lessons learned in the fire are the ones we are going to remember, and they know how to get us in the fire.

During PJOC we gained experience and training in land navigation, survival techniques, rock climbing, rappelling and other various skills used in rescue operations. The activity promotes teamwork, physical fitness and builds character. Although this all may sound extremely challenging and a little intimidating, cadets shouldn't be scared away by the course. Amid the difficulties and trials of the course, we were learning lessons that will stick with us forever and ultimately having a lot of fun. One thing I definitely brought away from this course is just being able to focus on the 25-meter target and push through when it sucks, which may seem like an easy thing to do, but actually being put in the scenario when you do have to push through and not think about the future and all the times you are going to get dropped in the days to come really shows you what you're capable of.

If you are thinking about military, especially special operations, or just looking for a challenge, PJOC is for you.



I, Robotics

(National Cadet Special Activity - E-Tech Robotics 2016)

*By Cadet Chief Master Sgt. Josiah Huntington, CAP
Sioux Falls Composite Squadron*

In 2015, I went to the Civil Air Patrol's National Cadet Special Activity "Engineering-Technology Academy in Robotics" (NCSA E-Tech Robotics) held in July at U.S. Marine Corps Base Camp Pendleton in California. It was a new science, technology, engineering and mathematics (STEM) activity designed to teach the basics of robotics; construction and programming. We worked with the LEGO EV3 "Mindstorm" platform to learn about robotics through hands-on activities.

2016 was the second year for NCSA E-Tech Robotics. They were testing out an Advanced Track and I returned to California as a part of this group.

In 2015, we focused on learning the basics of robotics. In 2016, in the Advanced Track, we worked more on advanced programming; building a simple robot and having it complete a difficult task. These

tasks included such things as programming a robot to collect rocks, launch a rocket, and raise a communications antenna.

Originally we were to be billeted again on USMC Camp Pendleton, but a conflict came up so we relocated to a nearby camp. Due to our change of location we had to drop some of our extra activities. However, we did spend a day at Camp Pendleton, eating at the Marine dining hall, and spending the evening at the beach.

We were also able to tour the U.S. Navy's Landing Craft Air Cushioned (military hovercrafts that can land a tank) base nearby, and we spent an evening at the beach. With our new location we also had the choice of doing several additional activities including rock climbing, zip lining, and high ropes.

I had a great time, learned a lot, and was able to reconnect with friends from last year and



What happens if you push this button?

make a few more. If you have ever attended an encampment and are thinking about going to an NCSA, I urge you to do so. There are so many opportunities to learn and meet new friends that this is not something you want to skip (even if you choose to go to something other than E-Tech Robotics).



Show and Tell – each team displays their robotics project.



Mighty morphin robotics team poses with their robots.

South Dakota Wing's Cadet Mission Pilot

*By Maj. Karla West, CAP, Sioux Falls Composite Squadron and
Maj. Bruce Kipp, CAP, SDWG Public Affairs Officer*

20-year-old South Dakota Wing Cadet Maj. Brandon West attained one of the rarest achievements in Civil Air Patrol – he was certified as a Mission Pilot in August 2016. He is only the second cadet to ever have reached that achievement in the 75 years that the South Dakota Wing has existed and the first cadet in the last twenty years to do so.

Brandon's love of aviation came with his first orientation flights as a 13-year-old cadet in the Civil Air Patrol. These flights were instrumental in him choosing to work towards earning his private pilot's license.

Each Civil Air Patrol cadet is offered ten orientation flights before he or she turns 18. Most cadets spread their flights over several years, but Brandon took much less time. Within the first month Brandon flew on his first orientation flight in a small airplane and was hooked on flying.

The subject of flying lessons came up after that first flight but it was not until his second year of high school that he actively began to pursue this dream. He went to Legacy Aviation, a flight school in Tea, SD to learn more about flying lessons. There is no minimum age required for flight lessons, but the Federal Aviation Administration does require students to be at least 16 before taking solo flights and at least 17 before getting a private pilot's license. Brandon began training for his private pilot's license in June 2013 at age 16, thanks in large part to a CAP flight scholarship.

Working at Legacy Aviation Brandon learned much about aircraft maintenance, fueling, and moving aircraft on the ground. He also had the



Cadet Maj. Brandon West just after completing certification as a CAP Mission Pilot. Photo credit Maj. Karla West, South Dakota Wing.

opportunity to fly on numerous different types of aircraft with friends he met there. After receiving his private pilot's license in September 2013, Brandon improved his flight qualifications by attaining an instrument rating in the summer of 2015 and commercial rating in the summer of 2016. He also earned his pilot's high performance endorsement and complex endorsement.

His next goal was to fly for the Civil Air Patrol. He completed the numerous requirements to become qualified to fly CAP aircraft. After 100 hours of flying he qualified as a CAP transport mission pilot. Transport pilots can move aircraft around for maintenance or transportation of senior members, basically anything except be the designated mission pilot on an actual mission. He then set his sights on becoming a CAP Mission Pilot. To do this he had to have at least 200 hours as "pilot in command" logged in his flight log book. He also had to fulfill numerous other requirements to qualify as a CAP Mission Pilot. He completed his Mission Pilot certification flight around 8:30 pm on 12 August 2016. He did his check ride in CAP's

Continued . . .

Cadet Mission Pilot

Continued . . .

Sioux Falls based Cessna-172. His check pilot was Maj. Jeremy Langrock who was supervised by Capt. Joe Oye.

Not content to rest on his laurels, Brandon flew his first operational mission just one day after becoming a Mission Pilot. He flew a low-level route survey with Maj. Jeremy Langrock and Maj. Karla West in Nebraska, and the very long low-level route survey of the Smoky High Military Operations Area in Kansas with Maj. Justin Johnson and Maj. West.

Brandon is currently working on getting certified as a flight instructor and hopes to start instructing new CAP cadets on their adventure into flight.

Working at Legacy Aviation and being in CAP has given Brandon opportunities that many young people never experience. Many of the pilots he met at work offered him invaluable advice; some even trusted him to fly their planes. Brandon has been very lucky in realizing his dream, thanks in large part to the support system in CAP and working at a job that gives him access to numerous aviation learning opportunities as well as the money to spend on his passion.

Brandon is a full time student at the University of Minnesota, Minneapolis in the honors program majoring in nursing.

Civil Air Patrol cadets have the option at age 18 to convert to senior membership or they can remain in the cadet program until age 21. 🇺🇸

South Dakota Wing's First Commander

*By Maj. Bruce Kipp, CAP
Wing Public Affairs Officer*

The Civil Air Patrol (CAP) came into being on 1 December 1941 when Fiorello La Guardia, the Director of the U.S. Office of Civilian Defense, signed Executive Order #9. On that same date each of the then 48 states was designated a Civil Air Patrol Wing. Thus South Dakota Wing also came into being on 1 December 1941 and along with its parent organization celebrated its 75th Anniversary of service to the state and nation in 2016.

The nationwide volunteer organization was based on a plan by aviation advocate Gill Robb Wilson and approved by the Army Air Corps. A paramilitary organization structured along the same lines as the Army Air

Corps, each CAP Wing was headed by a commanding officer. In the case of the South Dakota Wing our first commanding officer was Thomas B. Roberts, Jr. who held the Civil Air Patrol rank of Lieutenant Colonel. He commanded the Wing from December 1, 1941 to October 15, 1945, throughout World War II.

Thomas B. Roberts, Jr was born March, 10, 1891 at Armour, South Dakota where his father published a local newspaper. He attended school there and then attended the University of Notre Dame in Indiana. Shortly after graduation he went to Pierre to work for the State Publishing Company, a commercial printing company that published the Pierre Daily Dakotan newspaper. The Daily Dakotan suspended publication during the first years of World War I but resumed publication in 1924. He was its publisher until 1942 when the newspaper was again suspended due to material and labor shortages during World War II. Until the time of his death on August 1, 1950 he remained with the State Publishing Company, assuming complete management during the war years.

An aviation enthusiast, he learned to fly an airplane in the years following the World War I. He owned his own plane in the early years of aviation and was one of the promoters of aviation in Pierre and an enthusiastic advocate of the development of the Pierre municipal airport. He was the first chairman of the South Dakota Aeronautics Commission and, during World War II, was the head of the South Dakota Civil Air Patrol.



Lt. Col. Thomas B. Roberts, Jr. commanded the South Dakota Wing of the Civil Air Patrol from its founding in December 1941 throughout World War II.

South Dakota Wing's "Pixie" UAV

*By Lt. Col. Craig Goodrich, CAP
Wing Director of Operations*

In July 2016, Lt. Col. Chuck Trumble and I went to the National Emergency Services Academy at Camp Atterbury, Indiana where we met the newest member of South Dakota Wing's fleet of aircraft. It doesn't have a yoke, it has a stick, and it's a multi-engine aircraft, but not an airplane – it's a Hexacopter. And it's not a manned aircraft, but it does need a trained pilot. We will be the first CAP pilots to fly this aerial vehicle in South Dakota.

South Dakota Wing was chosen to participate in a test as CAP rolls out its unmanned aircraft program. There are lots of names for unmanned aircraft. The most common word used by the public to categorize these birds is "Drone". The FAA prefers to call them a SUAS – Small Unmanned Aerial System. CAP currently calls these things Unmanned Aerial Vehicles (UAV).

"Pixie" is the name we gave our new UAV.



SDWG's Pixie Hexacopter on the launchpad.



Lt. Col. Chuck Trumble removes SDWG's Pixie from the back of his SUV in preparation for a test flight.

She was custom built by Richard Brown, an employee of the Innovative Imaging and Research Company, who's been contracted by CAP National Headquarters. She's has the latest flight control circuitry available, a Pixhawk Flight Controller, which includes accelerometers and a magnetometer (basically an attitude and heading reference system) and navigation computer. Pixie also has been fitted with a First Person Video system, Global Positioning System, and full telemetry system. She's built on the DJI S800 body with six KV350 motors. Her normal payload, at least for now, will be a Cannon S260 camera that will mostly be taking straight down photos from about 180 feet with a two centimeter resolution.

We learned how to program Pixie's flight computer and track her with the "Mission Planner" software package. Pixie's take-off and landing will be in manual (stabilized) mode and she will fly the mission route on autopilot. We took photos with Pixie and learned how to use Agisoft Photoscan software to stitch the photos together, align them

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Civil Air Patrol Unit in SD Wins Quality Cadet Unit Award

*By Capt. Mike Johnson, CAP
Rushmore Composite Squadron and
Maj. Bruce Kipp, CAP, Wing PAO*

Congratulations to the Civil Air Patrol's (CAP) Rushmore Composite Squadron, "Home of the Wolf Pack". In recognition of the outstanding contributions of its cadets, officers, sponsors, parents, friends and supporters the squadron has been awarded CAP's Quality Cadet Unit Award for 2015-2016 for their vibrant and diverse cadet programs! The Rushmore Composite Squadron was the only unit in the South Dakota Wing to be so honored.

The squadron, one of six in South Dakota, is on Ellsworth Air Force Base near Rapid City. The unit's 66 members consist of 45 senior members and 21 cadets. Commander Capt. Mike Johnson praised his unit saying, "We have been honored nationally as a squadron that truly values and embodies the development of CAP's vital cadet program. This award is tangible recognition of the many contributions made by our cadets who run the day-to-day operations of this essential segment of our CAP mission."

The Civil Air Patrol was officially designated the official Air Force Auxiliary by Congress in May 1948 when they were given three core missions – emergency services, cadet programs and aerospace education. In 2015, CAP became part of the Air Force's "Total Force" which also includes active-duty, Guard and Reserve members.

Heraldry of the **RUSHMORE COMPOSITE SQUADRON PATCH**



The Rushmore Composite Squadron, CAP designation NCR-SD-031, is located on Ellsworth Air Force Base in Rapid City, SD. It is one of six squadrons in the South Dakota Wing.

The squadron is named after the Shrine of Democracy, more commonly known as the Mt. Rushmore monument, an iconic symbol of South Dakota. As the Rushmore Composite Squadron is located on Ellsworth AFB, home to one of the U.S. Air Force units equipped with the B-1 bomber, the squadron's patch blends elements of both into its design.

The squadron's distinctive unit patch is in the traditional round shape and consists of two rings and a central medallion. The narrow outer ring is black. The wide inner ring is red. At the top center of the red ring is an abbreviated form of the squadron's CAP designation in white. Below, and to the right and left are two white stars that symbolize the Civil Air Patrol's mission of aerospace education. Around the base of the red ring is the squadron's name in white. The central medallion depicts a black and grey U.S. Air Force B-1 bomber trailing white contrails as it soars through the dark blue South Dakota sky. Below the bomber is a depiction of Mount Rushmore in light blue and white with scattered trees in black at the base and sides of the monument.

No record has been found that mentions who designed the patch, when it was designed, or when it was approved for wear on the squadron's CAP uniforms. Anecdotally, the Rushmore Composite Squadron patch was designed to partially mimic commercial and USAF patches concerning the B-1 bomber.

Pilot Instrument Refresher Clinic

*By Lt. Col. Craig Goodrich, CAP
Wing Director of Operations*

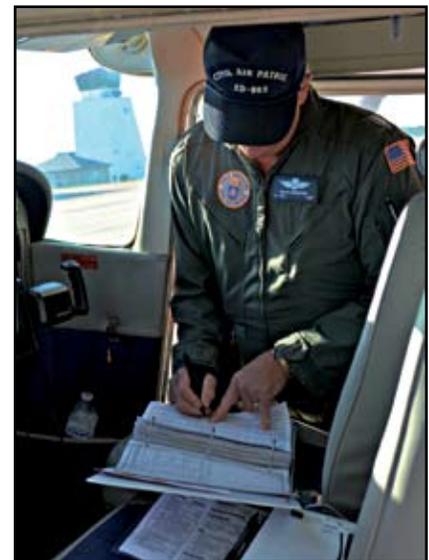


A rare sight – all seven CAP aircraft assigned to SDWG in one place.

On 10 September, pilots from across SDWG met at the squadron in Sioux Falls to discuss instrument flying and learn what they need to do to be safe and legal when flying in instrument conditions. The event was coordinated with the Federal Aviation Administration's Safety Team, so pilots received FAA Wings program credit. By making this an official FAA event, it was also open to the general public. Three general aviation pilots came to participate in the day-long class, and work side by side with CAP pilots.

Maj. Craig Goodrich presented a scenario in which each team of three pilots developed their plan for flying a human heart for transplant along with a medical attendant from Mitchell, SD to Pipestone, MN. The pilots covered risk management of dealing with the human factor, aircraft equipment, instrument approaches, FAA and CAP regulations, emergencies, and weather. Six other CAP instructors helped with the

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Preparation for flying – paperwork.



Preparation for flying – fueling.



Classroom work to refresh old skills and learn new ones.

teaching. Maj. Goodrich said, “I was thrilled to see such a great turnout. We had pilots from nearly every squadron in the Wing here, and everyone learned a great deal and had fun.”

This event brought all seven of the SDWG assigned CAP aircraft to Sioux Falls, and the wing took advantage of it. Maj. E.W. Filler ensured all the airplanes had the new survival kits placed in them and standardized the Aircraft Information File books kept in the planes. Capt. Kurt Johnson did a surprise safety check of the aircraft, and Maj. Goodrich passed out new CAP Shell Master Cards and new laminated checklists for each aircraft.

On 11 September, most of the pilots practiced flying what they had just learned. Cadet orientation rides were planned as well, but the weather was very bumpy – which made for great training for instrument flying, but not very good for cadet rides. 🇺🇸



Preparation for flying –aircraft checks.

to create a photo mosaic, then used a program called QGIS to geotag the photos, add elevations and 3-D to the scan. The final product is a geo-tiff image mosaic that can be uploaded to a number of GIS systems or portals including the FEMA photo portal or added as a layer to Google Earth.

Our Pixie is currently rigged for one battery operation but could be rigged with two batteries. With two batteries, she should be able to fly missions about 15 minutes long. In 15 minutes we could fly a straight line for about 3.1 miles (5 kilometers) in calm wind and shoot about 225 overlapping photos. This is one of the things that we are going to be testing.

As part of CAP’s test program we will use our Pixie to develop training techniques, checklists, and operational procedures. Some of the things we will study are how long it will take to set up and fly a mission, how large a mission area we can cover with our battery life, what is the optimum flight speed and height we should fly, and what is the optimal photo overlap. We will experiment to determine what we need in order to plan various types of missions over various types of terrain and in various weather conditions.

There are many things we could do with a UAV besides photography. In the future we may be able to use Pixie for thermal imaging, as a radio relay platform, for radio-direction finding, or rig it to carry a first aid kit and bottle of water to a plane crash survivor or lost person. Pixie could also be an excellent platform for the target detection part of search and rescue, especially for areas that ground teams cannot reach due to rugged terrain, steep canyons or swampy terrain etc., or the target is too small or vegetation too dense for an airplane to be effective. We could photograph and map a mishap wreckage pattern – something the NTSB, FAA, or USAF Safety would appreciate. We could also take photos to document damage after a tornado or flood. There’s really no limit to Pixie’s utility.

Anyone in SDWG over 16 years old can qualify as a Pixie pilot by taking the necessary training; a two-hour class, flying a simulator until proficiency is shown, practice flying our quadcopter, then getting certified by the FAA. 🇺🇸