



Vigilant

The Journal of the 143rd



143rd Composite Squadron, Waterbury, CT

SEPTEMBER 2012

Squadron Schedule

- 02OCT12 Squadron Meeting**
ES/Safety/Character Dev.
Uniform: BDU/Polo
- 05OCT12 Warren Fall Festival**
Warren, CT
Uniform: BDU/Polo
- 09OCT12 Squadron Meeting**
AE
Uniform: BDU/Polo
- 13OCT12 NER Conference**
Melville, NY
Uniform: Blues/Corporate
- 16OCT12 Squadron Meeting**
CPFT/Fitness Activity
Uniform: PT/BDU/Polo
- 23OCT12 Squadron Meeting**
Leadership
Uniform: Blues/Corporate
- 30OCT12 Squadron Meeting**
Open House
Uniform: Blues/Corporate
- 06NOV12 Squadron Meeting**
ES/Safety/Character Dev.
Uniform: BDU/Polo
- 10NOV12 CTWG Conference**
Cromwell, CT
Uniform: Blues/Corporate
- 13NOV12 Squadron Meeting**
AE
Uniform: BDU/Polo
- 20NOV12 Squadron Meeting**
CPFT/Fitness Activity
Uniform: PT/BDU/Polo
- 27NOV12 Squadron Meeting**
Leadership
Uniform: Blues/Corporate
- 04DEC12 Squadron Meeting**
ES/Safety/Character Dev.
Uniform: BDU/Polo
- 11DEC12 Squadron Meeting**
AE
Uniform: BDU/Polo

143rd Squadron Picnic

The 143rd held it's first Squadron picnic on September 1st at Hop Brook Park in Middlebury, CT. Squadron members and their families and friends spent a fun day at the park enjoying an excellent picnic buffet, swimming, volleyball and softball games, and relaxing by the lake.

After lunch the cadets decided to challenge the seniors to a game of softball. The cadets agreed to go easy on the seniors and only play three innings. Midway through the second inning, with the score at Seniors 12, Cadets 0, cadet pitcher Sarah Eriksson tried to rally the team with "C'mon guys, we're getting beat by old people", but sadly it was no help. The seniors won the game 19-1 with the MVP award going to Cadet Matthew Buonomo who hit in the only run for the cadets.

The picnic was a great success and we hope it will become an annual event.



Cadets (l. to r.) C/SSgt Veronica Ramirez, C/SSgt Sarah Eriksson, C/SSgt Karen Litwinczyk and C/Lt Col Maggie Palys enjoy the picnic.



The cooks kept the grill going all day. (l. to r.) Maj Tim McCandless, Mr. Cameron Foster, and Cadet Jon Gaynor.



Squadron Commander Maj Tim McCandless at bat while C/MSgt Aidan Moran catches.

The 143rd Composite Squadron

- Squadron Commander:** Maj Timothy McCandless
- Deputy Commander for Seniors:** Maj Thomas Litwinczyk
- Deputy Commander for Cadets:** Capt Sarah Lange
- Cadet Commander:** C/Lt Col Matthew McCandless
- Cadet First Sergeant:** C/CMSgt Rebecca Lange

Regular Meetings every Tuesday 7-9pm
Connecticut National Guard Armory
64 Field Street, Waterbury, Connecticut

www.gocivilairpatrol.com

Squadron Picnic (Cont.)



C/SSgt Sarah Eriksson pitches while C/Lt Col Matthew McCandless plays Second Base.



The cadet softball team.



The senior team.



Cadets enjoyed swimming in Hop Brook Lake.

Cadets Tour World War II Aircraft

Cadets from the 143rd Composite Squadron, Waterbury, Connecticut, learned about World War II vintage aircraft when the Collings Foundation's (www.collingsfoundation.org) Wings of Freedom Tour came to the Waterbury-Oxford Airport (OXC).

The Collings Foundation is a non-profit, Educational Foundation (501c-3), founded in 1979. The purpose of the Foundation is to organize and support "living history" events that enable Americans to learn more about their heritage through direct participation. The "Wings of Freedom Tour" has two goals: to honor the sacrifices made by our veterans that allow us to enjoy our freedom; and to educate the visitors, especially younger Americans, about our national history and heritage.



Cadets with the B-24J "Witchcraft".



C/Amn Ryan Brown (l.) and C/SMSgt Alan Hinkson (r.) man the waist guns in "Witchcraft".

Cadets toured the B-17 which was named "Nine-O-Nine" in honor of a 91st Bomb Group, 323rd Squadron plane of the same name which completed 140 missions without an abort or loss of a crewman.



Cadets with the P-51 "Betty Jane".



C/SMSgt Devin Moore (l.) and C/CMSgt Alec Beliveau (r.) in the cockpit of the C-47.

The original "Nine-O-Nine" was assigned to combat on February 25, 1944. By April 1945, she had made eighteen trips to Berlin, dropped 562,000 pounds of bombs, and flown 1,129 hours. She had twenty-one engine changes, four wing panel changes, fifteen main gas tank changes, and 18 Tokyo tank changes (long-range fuel tanks). She also suffered from considerable flak damage.

Cadets also toured the world's only fully restored and flying Consolidated B-24J Liberator named "Witchcraft". The original "Witchcraft" and crew began their combat service on April 10th, 1944, flying the first combat mission of the 467th Bomb Group. Over the next year "Witchcraft" flew an incredible 130 combat missions with various crews. "Witchcraft" was never once turned back while on a mission, and never had any crewmen injured or killed. Her last mission was flown on April 25th, 1945 which also was the last mission flown by the 467th Bomb Group.

Also on display was world's only dual control P-51C Mustang to our WWII aircraft collection. The P-51 is arguably the greatest fighter aircraft ever produced, certainly the most recognizable and legendary of the Second World War.



Cadets with the C-47. Note the D-Day invasion stripes on the wing. Cadets had the opportunity to talk to several surviving members of World War II Bomber Crews and learn what it was like to fly these historic aircraft on combat missions.

Cadets also toured a privately owned C-47 which is parked at the Waterbury-Oxford Airport and currently in the process of being restored.

-Aircraft Information taken from Collings Foundation Press Releases available on their website.

Squadron Celebrates Return of Lt Col Levitt

Lt Col Richard Levitt, who serves as Squadron Emergency Services Officer and Squadron Leadership Officer, was welcomed back to the unit after being unable to attend meetings for four months. A founding member of the 143rd, Lt Col Levitt brings over 35 years of experience in CAP and over 20 years of US Air Force experience to the squadron. Cadets and seniors celebrated the return of this valuable member of our team.



Lt Col Richard Levitt stands with the presentation Cadet Staff created to welcome him back.



Lt Col Levitt cuts cake for the cadets.

Members Attend ISC400 Class

Weekend Class Develops Emergency Services Management Skills

FEMA's Incident Command System Course 400 is designed for senior personnel who are expected to perform in a management capacity in an Area Command or Multiagency Coordination System. It provides overall incident management skills rather than tactical expertise.



Maj Tom Litwinczyk diagrams an Incident Command Structure while Capt James Igar of the 399th Composite Squadron (l.) and Lt Col Charles Neudorfer of MAWG look on.

Four members of CTWG completed the two day course held at Westover Air Reserve Base in Chickopee, MA. The course director was Lt Col Pete Norris, CAP National Emergency Services Director. Maj Tom Litwinczyk and Maj Joe Palys of the 143rd completed the course.

Olde Rhinebeck Aerodrome

Cadets Learn About World War I Air Tactics



The Black Baron flies his Fokker DR.1 Triplane.

Twenty two cadets and eight officers representing four squadrons enjoyed a full day of entertainment and education Sunday last in New York's Hudson River Valley. The 143rd sent eight cadets and three officers to this Aerospace Education field trip.

After entry to the Olde Rhinebeck Aerodrome, the group toured the flight line. They then ate lunch while entertained by a string trio playing and singing Celtic music, heavy on Irish revolutionary songs.



The 1909 Bleriot XI glides over the airfield.



An original French Renault M-1917 tank chases the Black Baron

Immediately after lunch, the cadets visited a group of re-enactors who has set up a campsite representing a World War One rear base of an 1916 Austro-Hungarian artillery unit. At that base were two German flying officers, recently shot down, rescued from no-man's land, and awaiting transportation back to their squadrons.

Scott C. Greb, AKA Rittmeister Richhardt Greb of the Royal Prussian Jagdstaffel 17 flying the Albatross D.III first explained details about his Uhlan cavalry uniform and decorations. He then discussed various aspects of air warfare in WW I and displayed extensive knowledge of both the equipment and personalities involved.



C/SSgt Sarah Eriksson (far left) and C/CMSgt Megan Major (far right) participate in the World War I era fashion show.

The cadets next walked up the hill and visited the extensive static display of aircraft and engines housed in four different hangars.

It was then time for the show. Previously selected ladies and young girls from the audience (including C/CMSgt Megan Major and C/SSgt Sarah Eriksson), dressed in period costumes, were paraded past the spectators in 1920 and early 1930 automobiles.



Cadets (l. to r.) C/Lt Col Maggie Palys, C/SSgt Sarah Eriksson and C/CMSgt Megan Major discuss World War I aerial tactics with an Austro-Hungarian officer.

The air show began with an aerial acrobatic show that included a pilot dropping a roll of toilet paper and then cutting the streaming tissue paper six times with his wing. Several historic aircraft, all nearly 100 years old, were flown for the audience.

During this show, the persona of the vaudevillian air show to follow were also introduced. We met the beautiful Trudi Truelove, the dashing pilot Sir Percy Goodfellow, their friends, Madame Fifi and her aviator consort, Pierre Loop-de-loop. The medals on Pierre's uniform were CAP mini medals from the mess dress uniform a friend of the actor's who had passed away.



Rittmeister Richhardt Greb inspects the cadets.

From their lair, the Badz Boyz Saloon, sallied forth the villainous and dastardly Black Baron and his evil minions. Interrupting the marriage ceremonies of Trudi and Sir Percy, the Black Baron lusting to steal a kiss from Trudi, kidnaps her. In the melee to rescue Trudi, Madam Fifi's lingerie shop is accidentally bombed by Pierre, Trudi falls from an airplane, a Renault tank enters the fray, and the Black Baron and Sir Percy end up in a dogfight. As with all good stories, the hero wins and gets the girl, but the villain lives to plan his revenge.

-Story by Maj Steve Rocketto of the Thames River Composite Squadron



Maggie Palys is promoted to C/Lt Col. (l. to r.) Maj Joe Palys, C/Lt Col Maggie Palys, Suzanne Palys, Mary Palys and C/Lt Col Matthew McCandless.



Cadets (l. to r.) Ryan Brown, Matthew DiBlanda, Eric Hutzelman, and Adam Young are promoted to C/A1C by Maj Palys and C/Lt Col McCandless.



C/Lt Col McCandless promotes Naomi Wells to C/Amn.



Ryan Brown is promoted to C/A1C by his father, Richard Brown.



Adam Young is promoted to C/A1C by SM Marc Cassarella (l.) and Maj Tom Litwinczyk (r.).



Aidan Moran is promoted to C/MSgt by Maj McCandless and C/Lt Col McCandless. C/MSgt Moran earned his promotion in August.



Quadae Davis is promoted to C/SrA by Maj Palys and C/Lt Col McCandless.



Christain Tynan is promoted to C/MSgt by Maj Palys and C/Lt Col McCandless.



Devin Moore is promoted to C/CMSgt by Maj Palys, his mother Terry Moore, and C/Lt Col McCandless.



Maj Palys promotes Austin Zerilli to C/Amn

September Promotions

The following members of the 143rd Composite Squadron were promoted in September:



Margaret Palys has completed the Eaker Award and has been promoted to C/Lt Col.



Alan Hinkson has completed the Dr Robert H Goddard Achievement and has been promoted to C/CMSgt.



Devin Moore has completed the Dr Robert H Goddard Achievement and has been promoted to C/CMSgt.



Christain Tynan has completed the Charles Lindbergh Achievement and has been promoted to C/MSgt.



Quadae Davis has completed the Mary Feik Achievement and has been promoted to C/SrA.



Ryan Brown has completed the Gen Hap Arnold Achievement and has been promoted to C/A1C.



Eric Hutzelman has completed the Gen Hap Arnold Achievement and has been promoted to C/A1C.



Matthew DiBlanda has completed the Gen Hap Arnold Achievement and has been promoted to C/A1C.



Adam Young has completed the Gen Hap Arnold Achievement and has been promoted to C/A1C.



Steven Garofalo has completed the Gen J F Curry Achievement and has been promoted to C/Amn.



Naomi Wells has completed the Gen J F Curry Achievement and has been promoted to C/Amn.



Austin Zerilli has completed the Gen J F Curry Achievement and has been promoted to C/Amn.



CAP Red Service Ribbon

The CAP Red Service Ribbon is awarded at the end of 2 years of service to CAP as a cadet or senior member in good standing.

A Bronze Clasp is awarded at the end of 3 additional years (total of 5 years). One additional bronze clasp will be awarded for each additional 5 years of service. A metal number, denoting years of service, awarded at the end of 20 years and in increments of 5 years thereafter. The longevity device is worn centered on the red service ribbon and the bronze clasps are no longer worn.



Steven Garofalo is promoted to C/Amn by his father SM George Garofalo and C/Lt Col McCandless.



Alan Hinkson is promoted to C/CMSgt by his father Richard Hinkson and Maj McCandless.



C/2nd Lt Cameron Foster (center left) is presented the CAP Community Service Ribbon by Maj McCandless (r.), his mother SM Kely Foster (center left) and C/Lt Col McCandless (l.).



C/CMSgt Megan Major is presented the CAP Red Service Ribbon by Maj McCandless and C/Lt Col McCandless.



Cadets launch their modified paper airplanes.

Cadets Participate in Aerospace Education Excellence Activities

The 143rd has started the new AEX year off with several activities in September. In addition to field trips to see World War II aircraft at Oxford Airport and World War I Aircraft at The Olde Rhinebeck Aerodrome, cadets completed an activity at the the squadron made available through NASA's Glenn Research Center called Teamwork in Aerospace. Cadets formed teams and designed paper aircraft to meet specific flight requirements. The activity is found here: www.grc.nasa.gov/WWW/K-12/airplane/TeamAct/teamwork.html

September Awards

The following members of the 143rd Composite Squadron were earned awards in September:

 **Celine Abassi** has been awarded the Red Service Ribbon for two years of service to CAP.

 **Megan Major** has been awarded the Red Service Ribbon for two years of service to CAP.

 **Cameron Foster** has been awarded the Community Service Ribbon with two clasps for 180 hours of community Service.

Senior Member Professional Development Awards

The following members of the 143rd Composite Squadron were awarded Senior Member Professional Development Achievements in September:

 **Joseph Palys** has earned a Master Rating in the Aerospace Education Specialty Track.

 **Kelly Foster** has earned a Technician Rating in the Administration Specialty Track.

 **George Garofalo** has completed Level I and is awarded the CAP Membership Award.

 **David Maciel** has completed Level I and is awarded the CAP Membership Award.

Senior Membership Award

The Level I Foundations program is a CAP orientation program and the first of CAP's Five professional development program levels. During this training senior members are exposed to the history of our organization and familiarize themselves with the general policies and procedures. To complete this level, members must complete five requirements:

1. **OPSEC** deals primarily with protecting sensitive but unclassified information that can serve as indicators about our mission, operations and capabilities.
2. **Introduction To Safety** is an overview of CAP's Safety Program.



3. **Cadet Protection Program Training** helps ensure a healthy and safe environment for cadets while providing the foundation for a professional climate and the highest standards of behavior of all our members in leadership positions.

4. **CAP's Nondiscrimination Policy**, defines CAP's intolerance for discrimination in any form.

5. **The CAP Foundations Course** gives members their initial training in CAP core values, policies, history and leadership. Members who complete Level I are awarded the CAP Membership Award.



Maj McCandless (l.) presents the CAP Membership Award to SM George Garofalo (c.) and SM David Maciel (r.).

Bob Veillette 5k

143rd Participates for 4th Year



Cadets at the assembly area before the race.

This annual event has supported Bob Veillette, a local journalist, jazz musician and avid runner, who suffered a stroke in 2006 that left him totally paralyzed except for his eyes. Over the last seven years the Bob Veillette 5k has raised over \$100,000 to support Bob.

For the fourth year the 143rd has helped the Waterbury Police Dept. man road blocks along the route of the run.

This year three cadets (C/2nd Lt Vaichus, C/CMSgt Beliveau, and C/Amn Maciel) ran in the race.



C/CMSgt Alec Beliveau (l.) and C/Amn David Maciel (r.) near the one mile mark of the race.



Leaders Issue Air Force Birthday Message

9/17/2012 - WASHINGTON (AFNS) -- Secretary of the Air Force Michael Donley, Air Force Chief of Staff Gen. Mark A. Welsh III and Chief Master Sgt. of the Air Force James Roy issued the following message to the Airmen of the United States Air Force:

As we celebrate the United States Air Force's 65th birthday, we salute all of the dedicated Airmen who serve or have served in our Nation's youngest and most innovative Service.

Throughout our proud history, the Air Force has embraced the technology that continues to revolutionize our capabilities in air, space and cyberspace. We owe an enormous debt to the ground-breaking visionaries and engineering pioneers who brought the technology of flight to life, and to the professional strategists and tacticians who imagined the military possibilities of these new technologies and propelled the science, theory and application forward.

While our Service enjoys an unbreakable connection to state-of-the-art technology, we must never forget that everything we do depends on our people, the living engine of our Air Force. Today, more than ever, the Air Force can take pride that our Service culture promotes and benefits from the know-how, determination, and commitment of a diverse group of men and women who embody our Core Values -- Integrity First, Service Before Self, and Excellence In All We Do -- while pursuing adaptive and innovative solutions for our Nation's security.

Every day, our Airmen have an opportunity to add a bright new chapter to the Air Force story by serving our Nation in the world's finest air force. The challenges confronting our country are great; but our active duty, Guard, Reserve, and civilian Airmen have never failed to answer our Nation's call. Working together in common purpose as one Air Force, we will keep America secure today and for all the years to come.

Happy birthday, Air Force! Aim High ... Fly-Fight-Win!

-Taken from www.af.mil

CTWG Aerospace Education Workshop

The Wing Aerospace Education Department held a one day Aerospace Education workshop on Saturday, September 1st. Eight AEOs from CTWG and one from MAWG participated.

Maj Joseph Palys, CTWG AE Special Projects Officer explained the Aerospace Education Specialty Track and the Cap regulations pertaining to aerospace education.

Maj Art Dammers, CTWG External AE Officer, covered details of how to run special events and field trips and their importance to the CAP program.



Our MAWG colleague, Steve Pacitti, describes the 104th Composite Squadron AE activities.

Notice was taken of the rich trove of CAP materials for enrichment work, now available or in printing. These include the STK satellite program, the Academy of Model Aeronautics affiliation, Teacher Orientation Flights, Col Randy Carlson's CAP-TERS photo interpretation program, and the Air Force Association's CyberPatriot contest.

Each participant was issued a range of CAP materials for squadron use. Attendees were 2nd Lt Keith Hall, Maj Ken Conrad, and David Hernandez from the 186th, Joe Testman from the 143rd, and Kevin Grimm from the 169th.

Lunch was provided courtesy of the Hartford Section of the American Institute of Aeronautics and Astronautics.

-Story by Maj Steve Rocketto, CTWG DAE



Maj Steve Rocketto leads a discussion about the AEX program.

Steve Pacitti, from the MAWG 104th Composite Squadron at Westfield, briefed the participants on a number of unique projects which he runs. These include electronics training, the construction of a C-172 replica simulator, job shadowing, and a deep involvement in radio controlled model aircraft.

Maj Steve Rocketto, CTWG DAE directed the workshop and offered sections on plans of action, SUI inspections, annual reports, and fundraising. He also promoted CAP's premier AE programs: The Cadet aerospace program, AEX, rocketry, and the Yeager award for seniors.



Maj Dammers encourages visits to aerospace points of interest.



143rd Earns Quality Cadet Unit Award

Any cadet unit that displays strong program fundamentals can earn the Quality Cadet Unit Award. This award motivates squadrons to pursue goals that we think will inevitably lead to their having a vibrant Cadet Program. The Quality Cadet Unit Award is purely objective. Cadet and composite squadrons who meet the challenging criteria below automatically earn the award.

ELIGIBILITY

All cadet and composite squadrons with a minimum of 10 cadets are eligible.

2012 CRITERIA

The award criteria are entirely objective. Any squadron that meets at least 5 of the 9 criteria listed below, as of 31 December of the preceding year, qualifies:

Adult Leadership: Unit has at least 3 Training Leaders of Cadets graduates on its roster.

Aerospace: Unit earned the Aerospace Excellence Award (AEX) during previous year

Cadet Achievement: 40% of cadets on roster have attained the Wright Brothers Award.

DDR Participation: 20% of cadets on roster have completed DDRx or unit participated in RRLA.

Encampment: 50% of cadets on roster have completed encampment

Enrollment: Unit has at least 35 cadets listed on its roster

Growth: Unit's cadet roster increased by 10%, or 10 cadets during previous year

Orientation Flights: 60% of cadets on roster have participated in at least 1 flight

Retention: Unit retained 40% of first year cadets during previous year.



The 143rd was one of only seven squadrons nationwide and the only squadron in the Northeast Region to meet eight out of nine criteria for this award. Georgia Wing's Fox City Composite Squadron was the only squadron to meet all nine criteria.

The squadron was the only unit in Connecticut to complete the Aerospace Education eXcellence (AEX) program in 2011. The squadron also led the wing in the Encampment, Cadet Achievement and Retention categories. The 143rd was second in the wing in the Orientation Flights category, which is a great accomplishment considering the unit is not based at an airport.

Three other Connecticut Wing Squadrons; The Silver City Composite Squadron, The Stratford Eagles Composite Squadron, and The 801st Cadet Squadron were also presented this award.

The only criteria the 143rd did not meet was DDR participation. The squadron is currently trying to set up a Red Ribbon Leadership Academy, but this does not mean that cadets can ignore the DDRx Program. The squadron also only met the encampment requirement by a few percentage points this year. This is likely due in part to CTWG not sponsoring a cadet encampment in 2012, however there are several excellent encampment opportunities available in neighboring wings. The next available encampment will be the RIWG encampment in April.

Glider Orientation Flights

Cadets from the 143rd again travelled to Springfield, VT to fly gliders as part of the Northeast Region Glider Program. C/CMSgt Alec Beliveau and C/CMSgt Devin Moore returned to Vermont after attending the Glider Academy this past summer. C/Amn Matthew DiBlanda, C/Amn David Maciel, C/MSgt Aidan Moran and C/Amn Adam Young all completed their first glider flight and C/SMSgt Alan Hinkson completed his third glider flight. Joining the 143rd for this trip to Vermont were C/SrA Nickolas Knight and C/A1C Owen Wilson from the Northwest Hills Composite Squadron in Torrington, CT who both completed their first glider flights.



Cadets with a CAP glider.



The view at Take-Off.



A view of Springfield, VT from the air.

Winter/Spring Cadet Training Opportunities

There are several opportunities in the Northeast Region to attend Cadet Training activities this winter and spring. While the dates of the Rhode Island Encampment have not yet been announced, it is an April encampment that aligns with the Rhode Island Public School Spring Break (this year those dates are 15-19APR13). Cadets who have not yet attended an encampment can apply to National Cadet Special Activities for next summer if they plan to go to this Spring Encampment. Once the application process is open announcements will be made at the squadron meeting.

Cadets who have already attended an encampment and meet the grade requirements are welcome to attend either of the leadership schools being held in New Hampshire the last week of December. These

schools have an excellent reputation for high quality training. Details as follows:

2012 NH Wing NCO Leadership Academy

Dates: 26DEC12 to 01JAN13

Location: Center Strafford, NH

Cost: \$125.00 (\$50.00 at the time of application)

Grade: Open to C/SrA through C/MSgt)

Application Deadline: 01NOV12

Web site: <http://ncols.nhcapcadets.org/>

2012 NER Cadet Leadership School - Winter

Dates: 26DEC12 to 01JAN13

Location: Center Strafford, NH

Cost: \$125.00 (\$50.00 at the time of application)

Grade: Open to C/MSgt to C/Maj)

Application Deadline: 17OCT12

Web site: <http://rclsw.nhcapcadets.org/>



Mars Science Laboratory/Curiosity

Searching for Signs of Life on Mars



This image shows the Alpha Particle X-Ray Spectrometer (APXS) on NASA's Curiosity rover, with the Martian landscape in the background. Scientists enhanced the color in this version to show the Martian scene as it would appear under the lighting conditions we have on Earth, which helps in analyzing the terrain. Image credit:

The Mars Science Laboratory spacecraft launched from Cape Canaveral Air Force Station, Florida, on Nov. 26, 2011. Mars rover Curiosity landed successfully on the floor of Gale Crater on Aug. 6, 2012, Universal Time (evening of Aug. 5, Pacific Time). Engineers designed the spacecraft to steer itself during descent through Mars' atmosphere with a series of S-curve maneuvers similar to those used by astronauts piloting NASA space shuttles.

During the three minutes before touchdown, the spacecraft slowed its descent with a parachute, then used retrorockets mounted around the rim of an upper stage. In the final seconds, the upper stage acted as a sky crane, lowering the upright rover on a tether to the surface.

Curiosity is about twice as long (about 3 meters or 10 feet) and five times as heavy as NASA's twin Mars Exploration Rovers, Spirit and Opportunity, launched in 2003. It inherited many design elements from them, including six-wheel drive, a rocker-bogie suspension system and cameras mounted on a mast to help the mission's team on Earth select exploration targets and driving routes. Unlike earlier rovers, Curiosity carries equipment to gather samples of rocks and soil, process them and distribute them to onboard test chambers inside analytical instruments. NASA's Jet Propulsion Laboratory (JPL), Pasadena, Calif., builder of the Mars Science Laboratory, engineered Curiosity to roll over obstacles up to 65 centimeters (25 inches) high and to travel up to about 200 meters (660 feet) per day on Martian terrain.



A chapter of the layered geological history of Mars is laid bare in this postcard from NASA's Curiosity rover. The image shows the base of Mount Sharp, the rover's eventual science destination. Image credit: NASA/JPL-Caltech/MSSS

The mission uses radio relays via Mars orbiters as the principal means of communication between Curiosity and the Deep Space Network of antennas on Earth. The overarching science goal of the mission is to assess whether the landing area has ever had or still has environmental conditions favorable to microbial life, both its habitability and its preservation.

Curiosity landed near the foot of a layered mountain inside Gale Crater. Layers of this mountain contain minerals that form in water and may also preserve organics, the chemical building blocks of life. The portion of the crater floor where Curiosity landed has an alluvial fan likely formed by water-carried sediments. Selection of Gale Crater followed consideration of more than 30 Martian locations by more than 100 scientists participating in a series of open workshops.

Selection of a landing site of prime scientific interest benefited from examining candidate sites with NASA's Mars Reconnaissance Orbiter since 2006, from earlier orbiters' observations, and from a capability of landing within a target area only about 20 kilometers (12 miles) long. That precision, about a five-fold improvement on earlier Mars landings, makes feasible sites that would otherwise be excluded for encompassing nearby unsuitable terrain. The Gale Crater landing site is so close to the crater wall that it would not have been considered safe if the mission were not using this improved precision.



Tracks from the first drives of NASA's Curiosity rover are visible in this image captured by the High-Resolution Imaging Science Experiment (HiRISE) camera on NASA's Mars Reconnaissance Orbiter. The rover is seen where the tracks end. The image's color has been enhanced to show the surface details better. Image credit: NASA/JPL-Caltech/Univ. of Arizona

Advancing the technologies for precision landing of a heavy payload yields research benefits beyond the returns from Mars Science Laboratory itself. Those same capabilities would be important for later missions, both to pick up rocks on Mars and bring them back to Earth and to conduct extensive surface exploration for Martian life.

-Taken from www.nasa.gov

LOCKHEED F-80 SHOOTING STAR



Lockheed F-80A (S/N 44-85231) rocket-assisted takeoff. (U.S. Air Force photo)

The Shooting Star was the first USAF aircraft to exceed 500 mph in level flight, the first American jet airplane to be manufactured in large quantities, and the first USAF jet to be used in combat. Designed in 1943, the XP-80 made its maiden flight on Jan. 8, 1944. Several early P-80s were sent to Europe for demonstration, but World War II ended before the aircraft could be employed in combat. (The aircraft was redesignated in 1948 when P for Pursuit was changed to F for Fighter.) Of 1,731 F-80s built, 798 were F-80Cs.

Although it was designed as a high-altitude interceptor, the F-80C was used extensively as a fighter-bomber in the Korean Conflict, primarily for low-level rocket, bomb and napalm attacks against ground targets. On Nov. 8, 1950, an F-80C flown by Lt. Russell J. Brown, flying with the 16th Fighter-Interceptor Squadron, shot down a Russian-built MiG-15 in the world's first all-jet fighter air battle.

-Taken from www.nationalmuseum.af.mil



Lockheed F-80A (S/N 45-8480). (U.S. Air Force photo)



Three-aircraft formation of Lockheed F-80Bs (S/N 45-8568, 45-8579, 45-8590). (U.S. Air Force photo)



Inhalants

Maybe you haven't heard of inhalants, but you probably come across them pretty often. Hair spray, gasoline, spray paint -- they are all inhalants, and so are lots of other everyday products. Many inhalants have a strong smell. That's why they're called inhalants: Some people inhale the vapors on purpose.



Why would anyone do this? Because the chemicals in these vapors can change the way the brain works, and those changes can make people feel very happy for a short time. But inhalants can also do harm.

They Don't Go Away When You Exhale

Inhalant vapors often contain more than one chemical. Some leave the body quickly, but others are absorbed by fatty tissues in the brain and nervous system. They can stay there for a long time.

One of these fatty tissues is myelin -- a protective cover that surrounds many of the body's nerve cells (neurons). Nerve cells in your brain and spinal cord are sort of like "Command Central" for your body. They send and receive messages that control just about everything you think and do.

If you picture nerve cells as your body's electrical wiring, then think of myelin as the rubber insulation that protects an electrical cord.

One problem with inhalant use over the long term is that the chemicals can break down myelin. And if myelin breaks down, nerve cells may not be able to transmit messages.

Beyond the Brain

One reason scientists are so interested in inhalants is that these chemicals affect the body in lots of ways. While some effects are due to changes in the brain, others are direct actions on other parts of the body, such as the circulatory system.



Did you know that some inhalants directly increase the size of blood vessels, allowing more blood to flow through? And some inhalants can make the heart beat faster. This can be a serious problem, especially if someone inhales butane gas.

Butane, found in cigarette lighters and refills, makes the heart extra sensitive to a chemical that carries messages from the nervous system to the heart. This chemical, noradrenalin, tells the heart to beat faster when you're in a stressful situation -- like if something suddenly scares you.

If the heart becomes too sensitive to noradrenalin, a normal jolt of it may cause the heart to temporarily lose its rhythm and stop pumping blood through the body. Some inhalant users die this way. Inhalants can also cause death by suffocation. This occurs when the inhaled fumes take the place of oxygen in the lungs and the brain. This is known as Sudden Sniffing Death.

Changes in the Brain

Damage from long term use of inhalants can slow or stop nerve cell activity in some parts of the brain.

This might happen in the frontal cortex, the part of the brain that solves complex problems and plans ahead. Or if inhalants get into the brain's cerebellum, which controls movement and coordination, they can make someone move slowly or clumsily.

Studies show that neurons in a part of the brain called the hippocampus can also be damaged by inhalants. The damage occurs because the cells don't get enough oxygen.

Since the hippocampus helps control memory, someone who repeatedly uses inhalants may lose the ability to learn new things, may not recognize familiar things, or may have a hard time keeping track of simple conversations.

The Search Continues

The truth is, there's still a whole lot that scientists do not know about the effects of inhalants on the brain.

When scientists learn more about how various inhalants affect the brain, they may be able to develop treatments that prevent the damage inhalants can cause. Maybe someday you'll make the next major breakthrough.

-Taken from teens.drugabuse.gov

Underage Drinking Effects on the Brain

Scientists once thought that human brains reached their maximum growth in childhood; however, recent research indicates that brain development continues until about age 25 (Coalition for Juvenile Justice, 2006). Consumption of alcohol during the adolescent years can affect brain development and may result in long-term negative effects, including those described below.

In a study comparing the brains of youth ages 14 to 21 who did and did not abuse alcohol, researchers found that the hippocampi of drinkers were about 10 percent smaller than in those who did not drink. Not only is this finding significant, since the hippocampus is a part of the brain that handles memory and learning, but such effects may be irreversible (American Medical Association, 2010). Alcohol can interfere with adolescents' ability to form new, lasting, and explicit memories of facts and events (Hiller-Sturmhofel and Swartzwelder, n.d.). This has obvious implications for learning and academic performance.



Alcohol has toxic effects on the myelination process in adolescents (Medical News Today, 2005). Myelination helps stabilize and speed brain processes. Disruption of the myelination process can lead to cognitive deficiencies (Lewohl et al., 2000).

The pharmacological effects of alcohol and other chemical substances most immediately interfere with optimal brain functioning. Continued use of alcohol and other drugs over time may keep youth from advancing to more complex stages of thinking and social interaction. Youth with alcohol use disorders often perform worse on memory tests and have diminished abilities to plan (Bonnie and O'Connell, 2004).

-Taken from www.ojjdp.gov



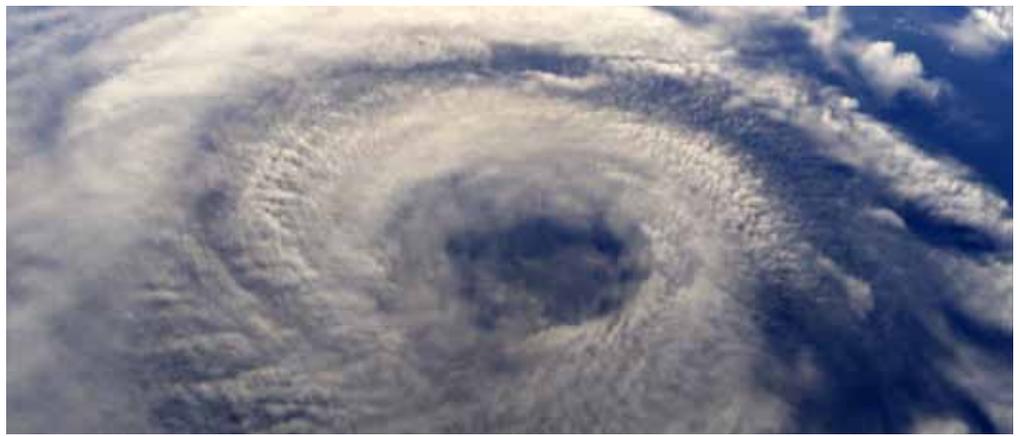
Hurricanes

The Best Defense is to Be Prepared.

A hurricane is a type of tropical cyclone or severe tropical storm that forms in the southern Atlantic Ocean, Caribbean Sea, Gulf of Mexico, and in the eastern Pacific Ocean. A typical cyclone is accompanied by thunderstorms, and in the Northern Hemisphere, a counterclockwise circulation of winds near the earth's surface.

All Atlantic and Gulf of Mexico coastal areas are subject to hurricanes. Parts of the Southwest United States and the Pacific Coast also experience heavy rains and floods each year from hurricanes spawned off Mexico. The Atlantic hurricane season lasts from June to November, with the peak season from mid-August to late October. The Eastern Pacific hurricane season begins May 15 and ends November 30.

Hurricanes can cause catastrophic damage to coastlines and several hundred miles inland. Hurricane can produce winds exceeding 155 miles per hour as well as tornadoes and microbursts. Additionally, hurricanes can create storm surges along the coast and cause extensive damage from heavy rainfall. Floods and flying debris from the excessive



winds are often the deadly and destructive results of these weather events. Slow moving hurricanes traveling into mountainous regions tend to produce especially heavy rain. Excessive rain can trigger landslides or mud slides. Flash flooding can occur due to intense rainfall.

Between 1970 and 1999, more people lost their lives from freshwater inland flooding associated with tropical cyclones than from any other weather hazard related to such storms.

The greatest potential for loss of life related to a hurricane is from the storm surge!

Storm surge is simply water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level to heights impacting roads, homes and other critical infrastructure. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. Because much of the United States' densely populated Atlantic and Gulf Coast coastlines lie less than 10 feet above mean sea level, the danger from storm tides is tremendous.

The storm surge combined with wave action can cause extensive damage, severely erode beaches and coastal

highways. With major storms like Katrina, Camille and Hugo, complete devastation of coastal communities occurred. Many buildings withstand hurricane force winds until their foundations, undermined by erosion, are weakened and fail.

BUILD A KIT

A disaster supplies kit is simply a collection of basic items your household may need in the event of an emergency.

Try to assemble your kit well in advance of an emergency. You may have to evacuate at a moment's notice and take essentials with you. You will probably not have time to search for the supplies you need or shop for them.

You may need to survive on your own after an emergency. This means having your own food, water and other supplies in sufficient quantity to last for at least 72 hours. Local officials and relief workers will be on the scene after a disaster but they cannot reach everyone immediately. You could get help in hours or it might take days.

Additionally, basic services such as electricity, gas, water, sewage treatment and telephones may be cut off for days or even a week, or longer. Your supplies kit should contain items to help you manage during these outages.

-Taken from www.ready.gov

Fighting birds with birds

by Airman 1st Class Jose L. Leon
22nd Air Refueling Wing Public Affairs

9/7/2012 - MCCONNELL AIR FORCE BASE, Kan. (AFNS) -- The 22nd Air Refueling Wing Bird Aircraft Strike Hazard program is being overhauled with new contractors employing the use of a falcon to keep skies clear from avian adversaries.

The BASH program is in place to reduce bird strikes by introducing a natural predator into the area to ward off smaller animals. McConnell will be changing the type of predator used from a dog to a pair of falcons.

Elaina, a Barbary falcon, and Jack, a Peregrine-Prairie hybrid, will be McConnell's new solution, capable of providing smaller birds the motivation to move along. "One strike, if the bird hits the wrong spot on a plane, could do \$50 to \$100 thousand worth of damage," said Maj. Jeremy Fischman, 22nd



In this image released by the National Geographic Society, a peregrine falcon is shown similar to one of the falcons that will be used in McConnell Air Force Base's Bird Aircraft Strike Hazard program. (Photo/National Geographic Society)

ARW flight safety chief. "It is really easy for the program to pay for itself by preventing one bad bird strike."

Preventing bird strikes also maintains safety by not putting Airmen in a situation where they have to maneuver aircraft damaged in flight. There were

4,471 bird strikes Air Force-wide in 2011. These incidents cost \$13,061,140.

While the fields and ponds surrounding McConnell are inviting habitats for birds, the falcons will be introduced as a predatory species. The birds instinctively know that it is too dangerous to seek food and shelter once they note the presence of the falcons. There are several other ways that bird and wildlife populations are humanely controlled around the airfield including fencing certain areas off, mowing the grass near the flight line to a prescribed height and draining puddles. Cannon blasts and noise makers can also be used to disperse unwanted flocks.

"I'll be trapping or using depredation to manage problem mammals," said Elizabeth Hensel, Falcon Environmental Services, Inc. wildlife manager. For example, if there is a red-tail hawk, Hensel can trap the bird and move it to another location 50 miles away leading to one less bird threatening the fleet. Having falcons will help disperse the birds and hopefully there will be less of a bird strike concern for the KC-135 Stratotankers, said Hensel.

-Taken from www.af.mil