



Missions for America

*Semper vigilans!
Semper volans!*

The Coastwatcher

Publication of the Thames River Composite Squadron
Connecticut Wing
Civil Air Patrol

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Issue 10.9

08 March, 2016

CADET MEETING

08 March, 2016

Submitted by

C/2nd Lt Daniel Hollingsworth

A promotion and award ceremony was held. Cadet Austin Eichelberg completed the Doolittle Achievement and was promoted to Cadet Senior Master Sergeant

SM Steven Schmidt received his second lieutenant bars.

The CyberPatriot team was recognized for its first place finish in Connecticut. Each member received a certificate and a tee shirt.

The Aerospace Excellence Award (AEX) has been earned by TRCS for the 15th year. Maj Roy Bourque is the officer in charge. The award

requires a number of aerospace activities conducted both at meetings and on field trips. Cadets who participated received certificates; C/2d Lts Virginia Poe, Michael Hollingsworth, Daniel Hollingsworth, C/CMSgt Alexander deAndrade, C/SMSgt John Meers, C/SSgts Ryan Schantz and Matthew Drost, and C/SrA Nichols Brouillard.

SENIOR MEETING

08 March, 2016

Submitted by

Capt Frederick Benteen

Commander's Call

Commander's Call featured a conference call hook-up for those members who could not attend in person.

Paul Noniewicz opened the meeting with a safety briefing. Noting that a solar eclipse was occurring in Indonesia and that some of our cadets used a specially filtered telescope to observe sunspots last week, he segued into a discussion of safe ways to observe the sun. Never look at the sun directly with the special filters which must be used. Sunglasses, exposed photographic film, and smoked glass will not protect your eyes.

Lt Col deAndrade discussed the events which are planned for the visit of the Canadian 173rd Royal Tiger Air Cadet Squadron.

A full range of activities have been scheduled with visits to the Coast Guard Academy, UConn's Marine Sciences facilities, the U.S. Submarine Museum and the *USS Nautilus*, Survival Systems, and well as a range of social activities with TRCS cadets and officers.

The Squadron calendar was revised and may be found on page 2.

| March 2016 | | | | | | |
|------------|-----------|--------------|-----------|-----|-----|--------------------------|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 CC CALL | 9 | 10 | 11 | 12 |
| 13 | 14 Canada | 15 Canada | 16 Canada | 17 | 18 | 19 OFlight CTWG TRAEX |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 OFlight Rifle |
| 27 Easter | 28 | 29 | 30 | 31 | | |

| April 2016 | | | | | | |
|--|-----|------------------|---------------------------------|-----------|-----------|-----------------------------|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| <i>Encampment Staff deadline April 1st</i> | | | | | 1 | 2 STEM |
| 3 | 4 | 5 | 6 | 7 NER AEO | 8 NER AEO | 9 NER AEO |
| 10 | 11 | 12 CC CALL | 13 Airport Emer Plan 0930 | 14 | 15 | 16 OFlight Rifle(NotCAP) |
| 17 Week of Spring Break | 18 | 19 No Meeting | 20 | 21 | 22 | 23 SQ SAREX |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 STEM |

| May 2016 | | | | | | |
|-----------|-----|--------------------|------------------------------|-----|-----|------------------------------|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 CC CALL | 11 | 12 | 13 | 14 Glider CTWG TRAEX |
| 15 Glider | 16 | 17 | 18 | 19 | 20 | 21 OFlight Rocket Contest |
| 22 | 23 | 24 Spring Clean | 25 | 26 | 27 | 28 Rifle |
| 29 | 30 | 31 FUN | <i>Rocket Contest 21 May</i> | | | |

| June 2016 | | | | | | |
|-----------|-----|---------------|-----|-----|-----|--|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 Rifle |
| 12 | 13 | 14 CC CALL | 15 | 16 | 17 | 18 OFlight |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 OFlight |
| 26 | 27 | 28 | 29 | 30 | 31 | SUI SEP 16th Groton Aviation Aug 19th |

Integrity

| Date | Senior | Cadets |
|---------------------------------|---------------------------------|---|
| 1 | Planning - Sq staff mtg | Testing, admin, Planning (civies) |
| 8 | Commanders Call | Drill, Safety, CD, Leadership, Promo (Blue) |
| 15 | Canada Visit | Canada Troop - Special Activity (BDU) |
| Visit of Canadian Cadets | | |
| 22 | PD - Personnel/ES - KLN89 GPS | Fitness, Ground Team (PT) |
| 26 | OFlight | OFlight |
| 29 | Dinner 6-8 Beacon Schmidt (civ) | Drill, Rocket (BDU) |

Volunteer Service

| Date | Senior | Cadets |
|------|---|--|
| 2 | | STEM: Helicopter |
| 5 | Planning: Staff Mtg | Leadership, testing, rocketry (civies) |
| 12 | Commander's Call / Promotions | Drill, CD, AE, Promotions (Blues) |
| 13 | Airport Emergency Plan 0930 Rocketto/ Francisco | |
| 16 | | Oflights Rifle (not a CAP event) |
| 19 | | No meeting |
| 23 | | SQ SAREX |
| 26 | CAP History, PAO Brief | Fitness, Safety, Rocketry, ES (BDU) |
| 30 | | STEM: Flight Simulator |

Respect

| Date | Senior | Cadets |
|-------|---|---|
| 3 | Planning / Staff | Leadership, Testing, Admin (civies) |
| 10 | Commanders Call | Drill, Insp, Sfty, CD, Lead, Promo (Blues) |
| 17 | ES - LISP Plan, Ditching | Drill, Insp, AE, ES, DDR, Guest Speaker (BDU) |
| 21 | | Commanders Cup Rocketry Contest |
| 24 | Spring Clean (Crandall) | Fitness, Safety, flight time (BDU) |
| 31 | Lobster Fest - Neilson | Fun night |
| 28 | CTWG Rifle Program to qualify for marksmanship ribbon | |
| 14/15 | | Glider Weekend- POC? CIC? |

Excellence

| Date | Senior | Cadets |
|------|-----------------|--------|
| 7 | Staff Meeting | |
| 11 | | Rifle |
| 14 | Commanders Call | |
| 21 | ES | |
| 28 | | |

Other Ground Tranex O-Flight Meeting Wing National

This schedule is not a replacement for good communications.

NORTHEAST PILOTS GROUP MEETING

05 March, 2016

The Northeast Pilots Group (NEP) consists of a bunch of aviation enthusiasts, seasoned pilots, beginners, and non-flyers interested in aviation. They are an informal social group which meet regularly to hangar fly and dine together.



Some of the NEP members posed for a photo outside the terminal.

Traditionally, when pilots fly to an airport for a nosh, the journey is known as the "\$100 Hamburger". Now that fuel prices have gone higher than the average light plane can fly, the \$100 sobriquet is inadequate but tradition must be served. At one time the man who commanded an aircraft carrier group was called the CAG. The name was changed to carrier air wing but the commander is still known as the CAG. So let it be with the "\$100 Hamburger."

On Saturday last the met for lunch at the Beacon Restaurant in Groton. Some three dozen flew in from points as close as Chester and as far as Richmond (not the Rhode Island Richmond) but the Virginia, Richmond! Graeme Smith who is noted for his presentations about the the Royal Air Force at the Battle of Britain came in from Rhode Island. CAP was represented by a Hudson Valley Capster. Dave Gianna who flew in from Poughkeepsie. Massachusetts sent Boston and Northampton members and The Connecticut Flyers, at Chester, sent some fellow club members

of Maj's Noniewicz and Farley.

One subject which came up was the use of aircraft to transport patients who need medical care *gratis*.

The organization, Patient Airlift Services (PALS) is similar to Angel Flight and can use personal and rental aircraft and be reimbursed for fuel. You can obtain more information about PALS at <http://www.palservices.org/> The NEP website's address is www.meetup.com/NEPilots Group/

CURRENT EVENTS

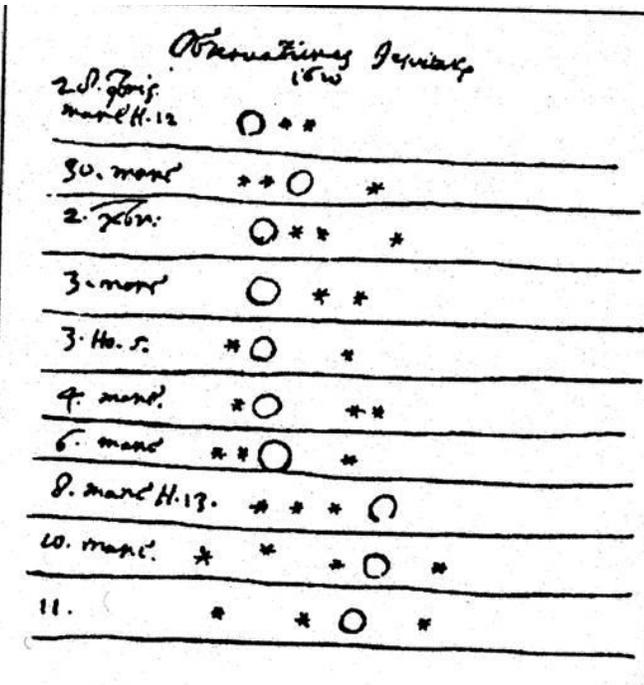
Observing Jupiter and the Galilean Satellites

The planet Jupiter is now in opposition to the sun. This means that the sun and Jupiter are 180 degrees apart and that the full disc of the planet is illuminated when seen from the earth. It is an ideal time to observe Jupiter and its four major satellites.

Around 1619, Galileo Galilei used a telescope to observe celestial objects. The telescope's lenses was about 40 mm in diameter, fairly close to most modern binoculars and provided a magnification of about seven times, also fairly close to a modern binocular. When he observed Jupiter, he notices four starlike objects, all in a line, and very close to the planet. He had discovered Ganymede, Callisto, Io, and Europa, Jupiter's four largest moons. Galileo observed them over a short period of time and noted their shifts in position, a phenomenon caused by the fact that from the earth, the Galilean satellite orbits are edge on.

Anyone with a pair of 7X binoculars can observe Jupiter and its moon today. The planet will be visible all night, the brightest object in the eastern sky during the early stages of the evening.

You can recapitulate Galileo's observations and watch its satellites change position. You may not always see all four as they are not visible when they are in front of or behind the planet.



A page from Galileo's notes recording the orbital shifts of the four major moons of Jupiter.

COMBATING THE INTRUSIVE DRONE

by
Stephen M. Rocketto

The proliferation of amateur operated unmanned aerial vehicles has led to recent government restrictions on their use.. Moreover, these swarms of drones have caused much anxiety in the Audubon Society. The Connecticut branch banned the possession of drones in their 19 sanctuaries in the Nutmeg State in order to protect the bird and the National Park Service has done the same in the park system. I realized then that I had to get proactive in order to protect myself. You see, the insect-like drone is a constant annoyance in my neighborhood as a local craft brewery keeps up a steady flight of beer deliveries to the motorcycle gang which lives next door.

Worse still is the recent violation of my curtilage and the attack on my Fourth Amendment rights. The Fourth Amendment is clear and guarantees the sanctity of my home and my domain from federal officials and by the doctrine of incorporation, also applies to state agents and private parties. Although I am not a member of the bar but I did once considered sleeping in a Holiday Inn Express, common law states that my house is my castle and I am due a modicum of privacy while therein. I have a legitimate expectation of privacy while in my dwelling or within the area surrounding my dwelling such as an enclosed yard or deck. To trespass withing this space is a violation of curtilage.

What brought about my outrage has been a incident which occurred a few weeks ago. After the recent near blizzard, my deck was covered with a pristine layer of fluffy snow. The clouds receded and the sun shone bright. Seizing the opportunity, I stripped naked and spread-eagled myself in the snow to enjoy a mid-winter snow bath. As I lay there peacefully enjoying the warm sun's rays on my ventral side and the the crispy snow's crystals on my dorsal side, what should I hear but the grating sound of a drone. Shading my eyes and looking skyward, I saw it, a camera equipped quad-copter, its glass eye glaring down on my recumbent unveiled form. Outraged, I leaped up, raced to my gun locker, grabbed my Mossberg 500 12 gauge shotgun and pumping a round into the chamber, returned to the deck. The drone still hovered above.

Journalistic ethics forces me to reveal that I am not without sin. Even if I did not participate in the nefarious peeping tom activity described below, I knew about it and a moral person, which I was not. should have reported what was going on the the authorities. You see, back in the 1970s, Moonstone Beach on the Rhode Island shore, was a mecca for nudists.

Air taxi pilots who will remain unidentified, had an arrangement to cruise Moonstone Beach for a spell of lascivious gawking. But in the interests of safety pilots agreed that eastbound craft would fly just offshore and westbound craft inshore. Voluntary reporting points were established and transmitted on 123.45 MHz. I cannot say that our attempts at peeping-Thomism were highly successful. It is somewhat difficult to control an airplane in slow flight while ogling the scenery below. But from all failed enterprises comes good. Later, the Federal Aviation Administration adopted a slightly modified version of our technique for the Hudson River Corridor. What pilots called the "Tunnel of Terror" required southbound aircraft to keep close to the New Jersey shore and northbound aircraft flew with Manhattan Island on the right. Entry, exit, altitude and reporting points were specified. The ragged band of charter pilots who gave the FAA this idea were never honored for their achievement, much less recognized

Now Connecticut laws states that when threatened by trespass, one has the duty to retreat. But this applies to threats by persons, not things, so I lifted the gun to my shoulder and prepared to engage the drone with a burst of anti-aircraft fire. Then I remembered that Connecticut law forbids the discharge of a firearm within 500 feet of a house and the abode of the motorcycle gang stood adjacent. Moreover, the sound of the gunfire might lead the gang to believe they were under attack and lead to reprisal fire. What to do? Nothing? No!

I retreated and considered by options. The I remembered that a Dutch company, *Guard from Above*, was training raptors to attack drones. One video which shows an indoor training sessions with Dutch narration (You do understand Dutch?) may be found at:

<http://www.studiodaily.com/2016/02/police-use-raptors-to-attack-hostile-drones/>

Better yet, go to: <http://www.popsci.com/can-birds-be-trained-attack-drones>. This video depicts a red-tailed hawk taking a drone down last October. The solution was obvious. Become a falconer and regain air superiority over my abode.

And a variant of this method has been blessed by His Holiness Pope Francis. From time to time, the Vatican releases doves as a symbol of peace. Recently, the crowd in St. Peter's Square were horrified when two of the released doves were killed by a crow and a seagull. The Swiss Guards now have an air arm. Sylvia, a Harris's Hawk has completed dissimilar air combat training and now patrols the skies over St. Peter's Square. Air superiority intimidates the lesser flying species and the doves can continue their demonstrations of peace. Airport managers approve of this method and have used birds of prey to keep lesser species off the premises.

Now birds have a long association, both positive and negative, with aircraft. I once had an herring gull hole the leading edge of my wing, was on a DC-9 which ingested some geese in the right engine, and observed a landing Lear enter into combat with a flock of geese on the approach end to runway 23 at Groton. The geese lost and the mechanics won when the Lear entered a lengthy inspection and repair process. Avoiding bird strikes is so important that the *Notices to Airmen* documents publish data on flyways, migrating species, and transit dates to warn aviators of potential hazards

But birds have had a positive history as servants of man. In days of olde, before, radios, carrier pigeons were carried by scout aircraft planes. In World War I, the Germans even flew a pigeon with a camera.

One heroic bird, *Cher Ami*, was awarded the Croix de Guerre with Palm when after suffering grievous wounds, carried a message which saved 194 US soldiers belonging to the famous 77th Infantry's

“Lost Battalion. *Cher Ami* is now enshrined in the Smithsonian. Wounds were not the only price paid. Eleven pigeons launched from aircraft went missing. After end, in 1918, of the War to End All Wars, the Navy experimented with operating carrier pigeons off the *USS Langley*, the first of our aircraft carriers.



Cher Ami
(US Army Signal Corps)

During World War II, the British Air Ministry's Pigeon Section maintained homing pigeon lofts. Some of which were carried Coastal Commands Lockheed Hudson bombers as a back-up communications system on their overwater patrols. Some 250,000 pigeons served and 32 received the Dickin Medal, the Medal of Honor for animals. Some of these gallant birds flew for the U.S Pigeon Service. *G.I Joe* received the medal for a flight which prevented a mistakenly directed bomber raid on an allied position and saved a estimated 1,000 lives. After his death, he was mounted and now can be found displayed at Fort Monmouth's U.S. Army Communications Electronics Museum.

The behaviorist B.F. Skinner, a pioneer in operant conditioning trained pigeons to guide the Navy's ASN-M2 Bat, a glide bomb. The missile was equipped with a television system which provided an image of the target. Pigeons were trained to peck the target image on a touch screen which then transmitted a signal to steer the missile.

The ASN-M2 Bat reminds one of the attempt to train a flying mammal, the Mexican Free-Tailed Bat to carry small incendiary time bombs. The plan was to drop them over Japanese cities. The

bats would then nest in the highly flammable Japanese structures and start wide-spread fires. The experiment proved its value in an unusual manner. In 1943, an accidental release of bats in New Mexico set fire to Carlsbad Army Auxiliary Air Base. The project was slow to develop and after two years of work and two million dollars, was abandoned as the weapon would not be combat ready before the anticipated end of the war. But enough of this digression. Back to my scheme to gain air superiority was raptors.

Falconry is an ancient and princely sport befitting my age and noble bearing. I consulted Prof. Wikipedia and discovered that the Connecticut General Statutes recognized the sport. This was not entirely good news since government regulation meant paperwork and fees but I decided to proceed.

My investigation discovered that acquiring an apprentice falconry license in Connecticut would take more time and effort than obtaining a private pilot certificate. First, you must take the Department of Energy and Environment Protections's falconry examination and achieve a score of 80% or better. Passing this test demands knowledge of birds of prey, raptor biology, health care of the birds, and the laws governing falconry.

Passing this examination gives one the privilege of submitting an application and a nonrefundable fee of \$220.00. Then you go to your local zoning enforcement officer to obtain written documentation that your raptor housing facility, called a mews, meets all applicable local zoning requirements. You will need a valid Connecticut firearms hunting license which requires you to complete a Conservation Education and Firearms Safety Course. Then you must certify that you have not been convicted of violating the falconry laws and regulations of any state or the federal government within a 5-year period. At this point, you must prove you have acquired the assistance of a general or master class falconer as a sponsor. The sponsor will guide you and you must keep a written log describing your instruction over a minimum of two years. During that time you are allowed to keep a single red-tailed hawk. After

you have practiced falconry for a minimum of two hunting seasons, the sponsor may certify that you meet the training requirement.

The cost is not inconsiderable. First, you need to set up a mews to house your bird and obtain the bird itself. Apprentice falconers may only possess a red-tailed hawk and supporting that hawk will require a wide range of equipment and supplies: gauntlets which protect the arm of the falconer, a hood and aba to keep the bird calm using a blinder and wrapper, anklets, jesses, bewits and bells, accessories which attach to the legs, a scale to check on the weight, accurate to the gram which will be an indicator of bird health, and of course, food. And do not forget mews maintenance, hunting licenses and veterinarian services. You might even purchase telemetry equipment to track your bird. None of these specialized equipment or services is cheap.



A visit to Audubon's Used Hawk Lot turned up this late model Harris's Hawk with no body damage and very little time on the airframe.

You will also need to obtain a suitable hunting area, perhaps with an agreement of a land owner and you will have transportation expenses to get there. But most expensive will be the time and effort which you must devote to tending and training your hawk. It is like farming, a daily chore. After researching the issue, I reluctantly came to the conclusion that a falconer's life would not be mine. But what to do?

Consider air rights. One cannot reasonably expect

privacy protection from satellites or aerial survey aircraft. Check "Google Earth" or one of CAP's storm damage assessments done for the Federal Emergency Management Administration. On the other hand, there are *Federal Air Regulations (FARs)* that govern low flight. CFR 119(a) states that except when taking off or landing, no person may operate and aircraft below "An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface." Parts (b) and (c) of the same regulation require that aircraft maintain a altitude of 1,000 feet over congested areas and "...500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure." Flight lower than these minimums constitutes reckless operation and by extension, a violation of curtilage. *Caveat:* there are some exceptions of helicopter operations and powered parachutes or weight-shift control aircraft.) But these operations must occur with hazard to persons or property on the ground. There are strong philosophical arguments that the very definition of personhood contains rights to property and privacy is a property of persons.

The new regulations governing drones restricts them to a maximum altitude of 400 feet and they must remain in view of the operator. An argument can now be made that curtilage rights do extend over one's property and surveillance of the ground is a violation of curtilage and an invasion of my privacy. The question is what actions can I undertake to regain air superiority over my property. I found an answer in the history of World War II.

A number of relatively little known anti-aircraft measures were tried. Barrage balloons were used by both sides as protection against low flying attackers. The balloons were moored with strong cables which were capable, if struck by an attacker, of causing fatal damage. Barrage balloons usage led to a "netting methodology." Steel nets were strung with cables between the protective umbrella of the balloons to provide an additional obstacle to attacking aircraft. The

barrage balloons were so effective that experiments were made to provide armor or cable cutters for aircraft. This methodology survives today with the wire cutters found on some helicopters.



The Stratford Police helicopter

Note the wire cutter protruding from the top of the fuselage above the crew position.

(Credit: Alex von Kleydorff)

In the run-up to World War II, some unusual anti-aircraft measures were considered. The US Navy issued a request for proposal which included the provision of wing stations to carry anti-aircraft bomb-lets which could be dropped on enemy formations. The British revived this idea during the “Blitz.” A shaky proposal when you consider where the bomb-lets which missed might land on, central London or on my deck. The Alcohol, Tobacco, Firearms and Explosives Agency of the US Department of Justice would, without doubt look with askance upon my use of explosives, no matter how salutary the benefit to me. Idea rejected.

Today, moored balloon cables and tower guy wires remain a hazard for the unwary pilot. The “Tethered Aerostat Radar System.” has a dozen of these aircraft moored along the US southern border stretching from Florida to Arizona. They support US Customs and Border Protection programs aimed at interdicting drug smugglers and also are used by the North American Air Defense Command mission to detect incoming enemy aircraft or cruise missile.



One of the craft in the “Tethered Aerostat Radar System” moored in Marfa, Texas.

Whether or not the systems works as intended cannot be addressed here but it certainly has brought down on aircraft. An April 20th, 20017, a Cessna 182, trying to pick up an IFR clearance flew into the cable anchoring the aerostat at Cudjoe Key, Florida. The cable sliced through the wing and three died. The aerostat was at 8,000 feet and the cable was not lighted but the area is a charted restricted area which is depicted on the Miami sectional and the L-23 IFR low altitude en route chart. Idea rejected due to zoning issues, high winds, maintenance and acquisition and maintenance expense. Idea rejected.



The Miami Sectional depicting the location of one of the “Tethered Aerostat Radar System” Note the warning that the system is unmarked and flies at 14,000 feet, a clear and present danger to the unwary general aviation pilot.

The I had a Eureka moment! I am a pilot so fight it out in a dogfight. An issue of *Popular Science* magazine provided the inspiration.

[\(http://www.popularmechanics.com/flight/drones/a14032/france-dispatches-a-net-carrying-bully-drone-to-catch/\)](http://www.popularmechanics.com/flight/drones/a14032/france-dispatches-a-net-carrying-bully-drone-to-catch/)

I can use a radio controlled aircraft or my own drone to carry a net or wires to entrap or snare the surveillance drone. I suppose the legality would vary by jurisdiction, but the property owner might have a fixed wing remote controlled aircraft on standby. Arm it with strands of knotted fishing leader, perhaps with a small weight attached to each one, on the trailing edges of the wings. The attachment should be just barely tight enough to survive takeoff. When the unwanted spy craft gets over the owner's property, a close flyover should snag its props and bring it down. My own aircraft would have its own video system and a telemetry feed to the ground in order to show proof that the intruding spy craft was in my airspace.



If the owner should come onto my property in a threatening manner and I cannot retreat, well then the Mossberg 500 will come in handy. In order to cover some of my expenses, I will ask for a ransom to return the drone and camera. Otherwise, I can cannibalize it for parts or sell it to a chop shop for salvage.

AEROSPACE HISTORY

10 MAR, 1956-Flying a Fairey Delta 2, Peter Twiss is the first aviator to exceed 1,000 mph

11 MAR, 1941-President Franklin D. Roosevelt signs the Lend-Lease Act which allows for the transfer of armaments to other nations whose defense is important for US security. Approximately 43,000 aircraft will be transferred to nations fighting the Axis powers.



Over 4,400 lend-lease Koberstochkas fought in the "Great Patriotic War."

12 MAR, 1946-The Army Air Force School at Maxwell Air Base, is renamed Air University.



Muir Fairchild Library, Maxwell AFB

13 MAR, 1961-First flight of the Hawker Siddeley P.1127 Kestrel, forerunner of the Harrier.



The FGA.1 /XV-6A version of Kestrel assigned to NASA for flight testing, Hampton, Virginia

14 MAR, 1927-Pan American Airlines organized.



The glory that was PanAm-747 departing