



The Daedalean

Semper Discens

*Monthly Aerospace Education Newsletter of the Connecticut
Wing of the Civil Air Patrol*

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FOR FUTURE PLANNING

16 APR-CSRRA High Power Rifle Clinic
13-15 MAY-CTWG Great Starts
21-22 MAY-Corporate Learning Course (tentative)
21-25 JUN-National AEO School
9-16 JUL-RSC-McGuire AFB
9-16 JUL-Reg. Cadet Ldrshp School-Concord, NH
23 JUL-07 AUG-NESA (two sessions)
08-14 AUG-CTWG Encampment
13-20 AUG-Reg. Cadet Ldrshp School-McGuire
17-20 AUG-CAP Nat'l Summer Conference
22-24 SEP-AOPA Summit-Hartford
22-23 OCT-CTWG Convention

CAP'S AEROSPACE EDUCATION NEWS BRIEF AVAILABLE ON-LINE

You can view the latest AE Newsbrief from CAP NHQ at:
http://members.gocivilairpatrol.com/aerospace_education/stay_informed/ae_newsbriefs.cfm

CAP'S 2011 NATIONAL AEROSPACE EDUCATOR SCHOOL ANNOUNCED

Dr. Jeff Montgomery, CAP's Deputy Director of Aerospace Education, has announced the plans for the 10th annual National Aerospace Education School which will be held at the Naval Air Station, Pensacola, Florida, 21-25 June.

The School is primarily directed towards Squadron, Group, and Wing Aerospace Officers, DAEs and the Internal and External Wing Directors.

The school will brief the attendees on a number of new CAP programs or upgraded old programs: robotics, cyber defense, satellite imagery, and advanced model rocketry. The revised edition of Aerospace Dimensions will be discussed. The new cooperative venture with the Academy of Model Aeronautics will be explained. Additional topics will cover the bread and butter portions of CAP AE from administration to scheduling and curricula.

Attendees will be offered a chance to watch a performance of the Blue Angels, tour the Museum of Naval Aviation, and visit the museum's restoration facility.

Further information may be found at:

http://members.gocivilairpatrol.com/aerospace_education/internal_specific/aeo_resources/aeo_school.cfm

CSRRA HIGH POWER RIFLE CLINIC CADETS INVITED

16 April, 2011

The Connecticut State Rifle and Revolver Association is running its annual high power rifle training session of juniors from 12 to 19 years of age. The session is an introduction to the safe handling and use of the AR-15 5.56 mm rifle.

National Rifle Association instructors, all experienced high power rifle competitors, will teach a safety course and then explain the opportunities available to join teams and compete in local and national championships. A demonstration of the use of the rifle will then be held and participants will be allowed to fire, under supervision, on the Bell City Rifle Club's 200 yard range.

There is no charge for this event. If a Cadet wishes to participate, he or she must be accompanied by a parent or guardian over the age of 21.

Bell City is located at 1774 Mt. Vernon Rd in Southington.

Those interested should contact on of the following:

Brad Palmer 860-649-4446
Jim Castonguay 860-738-2954
Randy Bieler 860-272-1725
Wallace Lyman 203-269-8931

This is not a CAP sponsored activity but Maj Rocketto, CTWG DAE, will answer questions. Contact him at the email address on the masthead of this publication.

SILVER CITY CADET SQUADRON USES AFA GRANT TO PROMOTE AVIATION EDUCATION

Capt Kelling of Silver City reports that the Squadron used a \$250 Air Force Association grant to run a public program in aviation physiology.

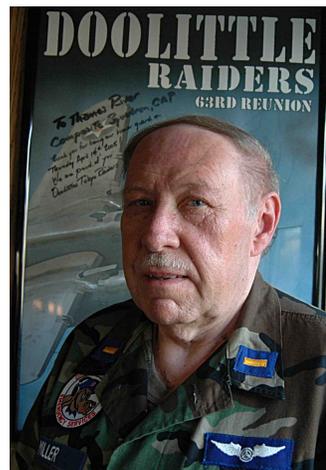
Jim Adams, the FAA Safety Team Manager at the Windsor Locks Flight Standards District Office supported the program and it served as part of the FAAST instructional units in the Wings Program.

MILLER AT MINUTEMAN

28 March, 2011

First lieutenant Edward Miller delivered the second lecture on aircraft design to officers and senior cadets of the New Haven Minuteman Squadron. The topic was "The Sound Barrier and Its Influence on Aircraft Design."

Miller is a member of the Thames River Composite Squadron and a retired aeronautical engineer who worked at Grumman on the Lunar Excursion Module and a Sikorsky, most recently on blade erosion problems.



Lt Miller

The lecture's salient point was compressibility, its dependence on aircraft speed, aircraft shape, and atmospheric conditions. Miller explained how as an aircraft moves through air, it forces the air to compress in front of it and this, in turn, as the aircraft exceeds the speed of sound, forms a series of ever increasing diameter behind the aircraft.

As a result of aircraft geometry, the speed of sound will be exceeded over a part of the aircraft, such as the wing's upper surface. This is the critical Mach number and results in extremely large increases in drag. This transonic regime of flight was often

entered by World War II fighter aircraft in dives and generated a range of problems in control and stability. High stick forces, loss of elevator effectiveness, and buffeting led to a number of deaths and strained the ingenuity of engineers who sought solutions to these novel problems.

Miller went on to discuss how the engineers gathered the data and designed aircraft to not only fly within the transonic range but exceed it...to go supersonic. The reason for swept wings was explained and more radical developments such as deltas and swept forward wings were also covered. Filleting, wing fences, dog teeth, vortex generators, and the selection of suitable aspect ratios and thickness to chord ratios completed Miller's presentation on wing design.

AEROSPACE CURRENT EVENTS

Timidity in Flight Testing!

Professor Mark Lewis, former Chief Scientist of the US Air Force and current President of the American Institute of Aeronautics and Astronautics recently commented on how the US government and industry reacts to risk and the reaction to a failure. In an interview in *Second Line of Defense*, Lewis discussed the importance of the advanced technologies tested in vehicles such as the X-27 and the X-51 but he also remarked on the US attitudes towards risk and failure. He stated that

When we have a small failure on even an unmanned flight test, we spend sometimes years studying our navel to figure out what could possibly have gone wrong before we've got enough the nerve to fly again"

Furthermore, he pointed out that we often give short shrift to development of adequate testing facilities but that to do so is a false economy. There are two choices:

You can make the investment up front in the test facility, or frankly, you can pay for it in a failed flight, but one way or another, you're going to pay for testing.



Then Chief Scientist of the US Air Force Lewis with TRCS attendees at Joint Propulsion Conference, 2008.

Pentagon Rejects GE/Rolls Alternate Engine for F-35

The Pentagon is satisfied that Connecticut's Pratt & Whitney will be the sole source for the Joint Strike Fighter's engines. They ordered a halt to work being carried on by General Electric and Rolls Royce for a competitive power plant. Some members of Congress agree that a second product would be a waste of money. However, the alternate engine has backers who will fight to reverse the decisions, claiming that competition will ultimately result in cost savings. The final decision must be made by Congress which has already obligated funds for the GE/Rolls effort.

Dragon Lady not Draggin'

The planned retirement of the Lockheed U-2 has been moved up to at least 2015. U-2s and their human pilots, equipped with the latest sensing equipment are proving their worth in Afghanistan

and will continue operations until Northrop-Grumman can produce enough of the unmanned RQ-4 Global Hawks. Currently, 32 U-2s in four variants are operational and the USAF has some 80 pilots rated to fly them.

Spirit Rover Incommunicado

Attempts to contact the Mars Spirit Rover, trapped in soft soil for the past year have failed again. The operators at the Jet Propulsion Laboratory in Pasadena hoped that over the Martian winter, the batteries might recharge but this does not appear to have happened. Hope is fading that Spirit will continue on its mission of exploration.

The vehicle completed its planned mission and operated for over a half year longer and traveled ten times more than planned before getting stuck. A wealth of data has been returned and in its honor, an asteroid, 7452 Spirit, has been named for it. But alas, in the words of a traditional Irish drinking song:

*...it's no, nay, never,
No nay never no more,
Will she play the wild rover
No never no more.*

Messenger Imaging Mercury

The Messenger spacecraft has commenced imaging the surface of Mercury. The Debussy crater was the first target and 363 more images were recorded and then transmitted to Earth. The plans are to take approximately 75,000 images and map out the entire surface of Mercury in order to study its geology.

AEROSPACE HISTORY **MEMORIES OF APRIL'S PAST**

01 April, 1939-First Flight of the prototype of Jiro Horikoshi's masterpiece, the Mitsubishi A6M Zeke, better known as the Zero.



Carrier Fighter Model 6, Mitsubishi

02 April, 1937-Svenska Aeroplan Aktiebolaget (SAAB) established in Trollhattan, Sweden.

03 April, 1933-Two modified Bristol aircraft make the first flight over Mt. Everest.

04 April, 1933-Rear Admiral William A. Moffett and 72 officers and men go West when the USN dirigible, USS Akron crashes off the New Jersey coast.

05 April, 1937-The Douglas Aircraft Company absorbs the Northrop Aircraft Company.

06 April, 1953-First Flight of the North American T-28B Trojan.



Privately Owned Trojan in Navy Livery

07 April, 1959-First operational flight of the Northrop Snark.

08 April, 1940-The USN places a contract with Grumman for the XTBF-1 Avenger.



President George Walker Herbert Bush Flew Torpedo Bomber of this Type in WWII

09 April, 1940-First Flight of the Grumman F5F-1 Skyrocket. Old timers will remember that Blackhawk's International Squadron flew this plane.

10 April, 1959-First Flight of the Northrop T-38 Talon.



England AFB Talon

11 April, 1943-The California Rocket Society tests the first hybrid rocket propulsion system utilizing a carbon rod and liquid oxygen.

12 April, 1961-Vostok I carries Flight Major Yuri Gagarin from Tyuratán to orbit.

13 April, 1960-The USN launches Transit 1-B, the first navigational satellite using a Thor-Able-Star vehicle.

14 April, 1960-The first launch of a Polaris missile from a submerged tube occurs off San Clemente Island, California.

15 April, 1928-Australian explorer George Hubert Wilkins and US pilot Lt Carl Ben Eielson fly a Lockheed Vega in the first successful crossing of the Arctic flying from Point Barrow, Alaska to Spitzbergen, Norway

16 April, 1923-Lts John A. Macready and Lt. Oakley A. Kelly lift off in a Fokker T-2 on a record breaking 36 hr, 2,500 mi. flight carrying a 10,899 lb. payload.



Macready-Kelly Aircraft at NASM-The DC Mall

17 April, 1926-Three Army Air Corps aircraft led by Lt Harold R. Rivers take the first aerial photographs of an erupting volcano.

18 April, 1958-At Edwards AFB, Lt. Comdr. George Watkins sets a new absolute altitude record of 76,932 ft. flying a Grumman F11F-1 Tiger



F11F-1 Tiger at MAPS-Akron-Canton Airport

19 April, 1923-Robert Goddard successfully launches his first rocket with gyroscopically equipped fins.

20 April, 1939-NACA's Langley Aeronautical Laboratory places its first free flight wind tunnel into operation.

21 April, 1935-First Flight of the USN dirigible USS Macon.

22 April, 1930-Harold Pitcairn and his associates are presented the Collier Trophy by President Herbert Hoover for developing and demonstrating the autogyro.

23 April, 1935-A Pan American Airways Sikorsky S-42 captained by the legendary Edward Musick lands at Alameda completing the first California-Hawaii-California survey flight.

24 April, 1946-Winged Cargo Inc. inaugurates freight service utilizing a Douglas C-47 towing a WACO CG-4A.



CG-4A Haig, Known in the UK as The Hadrian



PBA DC-3 Touching Down at PVC

25 April, 1945-The last US bombing raid in the European Theatre occurs when B-17s attack the Skoda Works in Pilsen, Czechoslovakia. A Me-262 becomes the last German aircraft shot down.

26 April, 1972-The Lockheed L-1011 TriStar ends scheduled service on Eastern Airlines Miami-New York route.



Tristar on the Ramp

27 April, 1947-The Douglas DC-6 enters passenger service when American Airlines Flagship Illinois commences operations on the Chicago-New York route.

28 April, 1936-A Pan American Airways S-42 arrives in Hong Kong completing the first commercial trans-Pacific trip.

29 April, 1964-BOAC introduces the Vickers VC-10 into regular passenger service on the London-Lagos, Nigeria route.



British Overseas Air Corporation VC-10 Awaits Passengers

30 April, 1941-Brig. Gen. H.H. George goes West in an aircraft accident in Australia.

NEW FEATURE

The Daedalean is offering extended historical articles on air war topics. Each are planned to be published in the month on which the event occurred. Last month we covered RAF Bomber Command's disaster at Nuremburg.

This month we selected 18 April. The 18 April date is not only the anniversary of the Yamamoto shoot down but also the date on which the Doolittle raiders departed the USS Hornet to stage the first air raid on the Japanese mainland. In Massachusetts, the 19th is celebrated as Patriots' Day for in the words of Longfellow, "Twas the eighteenth of April in '75. Hardly and man is now alive who remembers that famous day and year..." Paul Revere's ride!

Executive Action The Shoot Down of Admiral Isoroku Yamamoto 18 April, 1943

"Now the reason the enlightened prince and the wise general conquer the enemy whenever they move and their achievements surpass those of ordinary men is foreknowledge." Sun Tzu *The Art of War*

One of the greatest fears of those that practice business or war is that ones' opponent will obtain knowledge of future strategies or tactics. In general, capitalizing on intelligence information is a murky business at best, beset by uncertainties as to the reliability of the sources, the skills of the analysts, and the responses chosen by those privy to the final reports. Sometimes, a confluence of circumstances occur which result in a well executed plan and successful results. Such were the conditions which resulted in the death of the Commander in Chief of the Japanese Combined Fleets, Admiral Isoroku Yamamoto.

He is best known as the planner of the Pearl Harbor attack but to characterize him by this one achievement would be a mistake. The Admiral may have planned the attack but strong evidence exists to show that he considered it a misjudgment on the part of the Japanese military and politicians.

Yamamoto's Life

Yamamoto spent his entire adult life as a naval officer. A graduate of the Imperial Japanese Naval Academy, he lost two fingers during the 1905 Russo-Japanese War at the Battle of Tsushima. Afterwards, he attended naval staff colleges and Harvard University and served in a number of command positions. He also became an early advocate of naval aviation and transferred to the aviation branch in 1924. In 1934, Yamamoto was an advisor to the Japanese delegation at the London Naval Conference. He was posted twice as a naval attache in Washington.

His cosmopolitan background provided him with a deeper insight into western culture than that held by many of his more insular and ultra-nationalistic colleagues. He opposed the invasion of Manchuria and the resulting war with China. He also opposed the tripartite axis pact that Japan made with Nazi Germany and Fascist Italy. As a result, Yamamoto was vilified for his relatively moderate views and was threatened with assassination by the more radical Japanese militarists. However, his obvious competency and his popularity with the navy gave him some measure of protection and promotion to full admiral and command of the Combined Fleets. Despite his misgivings, when the decision was made to wage war against the United States and the European powers, it became his duty to serve as ordered.

Yamamoto planned the Pearl Harbor attack but he had serious misgivings about a war with the United States. Acutely aware of Japan's (and its

navy's) reliance on foreign oil imports, he stated that "I shall run wild considerably for the first six months or a year but I have utterly no confidence for the second and third years." He had lived in the United States and was knowledgeable about its industrial potential and the character of its citizenry. He warned that, given the American spirit, certain victory would not be obtained by taking the United States bastions in the Pacific but would require the Japanese to "...march into Washington and dictate the terms of peace in the White House."

Yamamoto was right. Victory followed victory in the first six months of the war. The US fleet was wounded at Pearl Harbor, British, French and Dutch colonies were occupied in the southwest Pacific and China, and the Philippine Islands were conquered. Australia was threatened.



(US Navy File Photo)

Code Breaking and the Battle of Midway

Flushed with success but aware of the threat of United States carriers which had been present in Pearl Harbor on December 7th, Yamamoto decided to attempt to draw them into battle. He devised a complicated plan which involved an

Army sponsored attack on the Aleutian Islands and the seizure of Midway Island. Hopefully, this would draw the US carriers westward and result in the destruction of what was left of the US Pacific Fleet. The order of battle at Midway indicates that Yamamoto possessed a major advantage in traditional warships; seventeen battleships and and cruisers and 46 destroyers against eight American cruisers and 15 destroyers. But one of the keys to victory would be the aircraft carriers. Japan had four heavy carriers and two light carriers with approximately 300 aircraft. US forces consisted of three heavy carriers and Midway's ground based air units totaling about 350 aircraft.

And there was another key to victory: a "key" to the Japanese naval codes which rested at Pearl Harbor's Station Hypo, the navy's Combat Intelligence Unit, charged with electronic signal monitoring, cryptology, and cryptographic analysis. The full story of how the United States

developed access to Japanese naval communications by partially breaking Japanese Naval Code 25 (JN25) is too complex to relate here and not pertinent to this story. But it is sufficient to say that during the war, enough of the code was broken to give the US commanders vital information as to Japanese intentions and plans. This information allowed the favorable positioning of the US carriers under Rear Admiral Raymond Spruance so as to achieve a major victory, crippling Japanese naval aviation, and ending the Empire's hopes for domination of the central Pacific. Six months had passed since Pearl Harbor.

In the next six months, Japanese plans to invade Australia were thwarted when they failed to take New Guinea and were driven out of Guadalcanal. As Yamamoto had predicted, after a year, Japanese forces were no longer "running wild" in the Pacific and morale was suffering. Yamamoto then decided to make an inspection tour in the South Pacific as a means to better appreciate the military situation and boost the flagging morale of the Japanese forces.

The visit was planned in meticulous detail as befitted the Commander in Chief Combined Fleet. On 13 April, Japanese bases and support units were notified by radio using the latest version of JN25. The pertinent part of the message, in translation, stated, in part that:

...0600 depart Rabaul on board medium attack plane (escorted by six fighters); 0800 arrive Ballale. Immediately depart for Shortland on board sub chaser...arriving at 0840. Depart Shortland 0945...arriving Ballale at 1030...1100 depart Ballale on medium attack plane, arriving Buin at 1100...1400 depart Buin aboard medium attack plane; arrive Rabaul at 1540....

At Pearl Harbor, the Combat Intelligence Unit, now renamed Fleet Radio Unit Pacific (FRUPAC), was listening. The message was decoded and internal evidence indicated to the traffic analysts that the message was important enough to receive priority handling. Navy and Marine translators read the deciphered portions and skillfully deduced the missing elements, especially the geographic names. The travel itinerary of the Commander in Chief of the Japanese Fleet was passed on to Admiral Chester W. Nimitz, Commander in Chief of the Pacific Fleet. Operation Vengeance, the Navy's strike at the brains of the Japanese naval command was set into motion.

Planning Operation Vengeance

The information was passed up the US chain of command. Exactly how far it went is open to debate. Some claim the order to kill Yamamoto was issued by Franklin D. Roosevelt, himself. There seems to be no documentary evidence to serve as proof. Nimitz, in overall command of the central Pacific theatre of operations consulted with

Secretary of the Navy William Knox and then authorized Admiral William F. Halsey, commander in the South Pacific to proceed with the operation. Halsey bucked the order down to Rear Admiral Marc C. Mitscher, the commander of joint air operations in the Solomons. The operation was code named Vengeance.

However, there was a *caveat*. The mission had to be run in such a way as to conceal the fact that the information had been obtained by breaking the Japanese codes. Stories were prepared that the Yamamoto flight had been reported by Coastwatchers. The Coastwatcher were allied agents, often Australian or New Zealand planters, who has stayed behind enemy lines to report on Japanese activities. Some patrols were flown in the general area of Rabaul so that the planned attack might seem to be a coincidental interception. In case of capture, most of the pilots who flew the mission were not privy to the name of their prey.

Also, the attack had to be launched from Guadalcanal and the extreme range of over 400 miles one way meant that only the US Army Air Force's Lockheed P-38 Lightnings were suitable. The Lightnings still needed to be fitted with two drop tanks, one of the usual 165 gallon tanks and a special 310 gallon tank. The Navy had gathered the intelligence for the mission and the area of operations was a Navy fiefdom so Navy planners believed that the best course of action would be to make the kill while Yamamoto was being transported from Ballae to Shortland by sub chaser. However, Major John Mitchell, the commanding officer of the 339th Fighter Squadron which had been chosen to execute the mission objected due to the unfamiliarity of the army pilots with ship types and decided on an air intercept.

The Hunter Aircraft-Lockheed P-38 Lightning



two G4M Betty bombers with six A6M Zeros as escort. The meticulous planning by both Japanese and US staffs was faultless. After a two hour flight, the P-38s found the Japanese aircraft exactly where they had been expected. The attack commenced and the fog of battle descended on the action.

The Hunted Aircraft-Mitsubishi G4M "Betty"



(Model and Photo by Lt Ed Miller, TRCS)



*The action as painted by Sgt. Vaughn A. Bass
(USAF photo)*

Mitchell secured an excellent navy ship's compass to assist in navigation and selected 18 pilots which he organized into three groups: four shooter, and two cover groups consisting of six and eight aircraft respectively. The flight would be flown at minimum altitude and maintaining radio silence. The course followed a multi-legged northwest course, skirting the New Georgia Islands which form the central part of the Solomon archipelago.

Executing Operation Vengeance

Two of Mitchell's shooters aborted. One blew a tire on take off and the other with a malfunctioning drop tank. According to plan, two aircraft assumed their position in the four plane attack flight. Meanwhile, Yamamoto, punctual as usual, departed for Bougainville. His flight consisted of

Captain Thomas Lanphier and First Lieutenant Rex Barber each claimed a Betty. A third pilot, Lt B. Frank Holmes claimed a third but only two Bettys were present. Lanphier returned first, stated that he had made the kill, and was given credit but this was disputed by Barber. A rather unsavory episode over who killed Yamamoto developed and lasted for over two decades. Eventually, both Barber and Lanphier were give a half credit each by the Air Force. Since then, based upon the testimony of two Japanese survivors, a study of the pilot reports and the performance capabilities of the P-38, many authorities who have studied the battle believe that Barber shot down Yamamoto's plane. Air Force records were not amended.



The wreckage of Yamamoto's G4M1 "Betty", Tail Number T1-323 lies in the jungle some miles northwest of Ballale Airfield, its destination.

Yamamoto's body, with two gunshot wounds, was thrown clear of the wreck. According to witnesses, he was found the next day under a tree, strapped in his seat and clutching his *katana*..

*As cherry trees flower
With katana sheathed
I sit at rest*

MORE AVIATION HISTORY ON 18 APRIL

The attack on Admiral Isoroku Yamamoto took place on the 18th of April in 1943. Interestingly, this is one year to the day that Colonel Doolittle led 16 B-25s off the deck of the *USS Hornet* to stage the first bombing raid on the Japanese home islands.

Also occurring on 18 April....

In 1916, Nieuport Squadron No. 124 is formed under French command. This is an all-American squadron composed of volunteers. In December, they were renamed *Escadrille Lafayette*. Four months later, the United States will enter the World War I.

In 1986, aeronautical engineer Marcel Bloch, better known by his *nom d'guerre* as Marcel Dassault, goes West.

In 1917, Pacific Aero Products Company changes its name to the Boeing Airplane Company.

*"The Red Barn"
Boeing's First
Factory
Seattle, Washington*



CORPORATE LEARNING COURSE ANNOUNCED

Capt Glen Dains, CTWG Professional Development Officer, has scheduled a Corporate Learning Course.

Enrollment is open for the Corporate Learning Course (CLC) to be held at Wing Headquarters in Middletown on April 30 and May 1, 2011. Class hours will be 0800 to approximately 1530 both days.

The Corporate Learning Course School is a component of Level III of the Senior Member Professional Development Program. It discusses the relationship that the CAP squadron has with the next major echelon of command -- the wing. Specifically, CLC discusses how wing-level operations help to accomplish CAP's three missions of aerospace education, emergency services, and cadet programs. It describes the working relationships wing staff officers have with each other, and their squadron level counterparts.

To enroll for the school, submit a CAPF 17, with your commander's endorsement, to Wing Headquarters no later than April 22, 2011.

Applications received after that date will be returned. Forms may be hand delivered or mailed to Wing Headquarters at P.O. Box 1233, Middletown, CT, 06457-1233. Please enclose a check for \$20.00 made payable to CTWG Civil Air Patrol, to cover course materials and refreshments.

Prerequisite for attendance is completion of Squadron Leadership School. Uniform will be blues, corporate equivalent, or polo shirt uniform .

AERONAUTICAL ACHIEVEMENT



TRCS's Maj John deAndrade has earned his type rating in the Boeing 757/767. He is an USAF Academy graduate who has been assigned to SAC and flew Boeing B-52s and KC-135s and the North American-Rockwell B-1B as well as serving a tour as a Minuteman ICBM Launch Control Officer.



deAndrade demonstrating short field techniques in the 757-332?

Maj deAndrade, a CAP member for ten years, has served in squadrons in Texas and Georgia. His many CAP qualifications include the Command Pilot Rating, Check Pilot Examiner, Air Operations Branch Director, and a Senior Level in Standards and Evaluation.

MAJ ROCKETTO HONORED BY FAA

Maj Rocketto, CTWG DAE, was presented *The Wright Brothers "Master Pilot" Award* by James Adams, FAA Safety Team Program Manager, Windsor Locks FSDO at the monthly meeting of the Groton Hangar of the Quiet Birdmen.

The Federal Aviation Administration presents this award to pilots who have "demonstrated professionalism, skill and aviation expertise by maintaining safe operations for 50 or more years." Fewer than 1800 aviators have received this honor.

Testimonial letters were read which commented on his enthusiasm advocating and teaching aerospace education, his work with and support of aviation related organizations such as the Civil Air Patrol and the American Institute of Aeronautics and Astronautics, and his life-long immersion in the history, technology, and practice of the aerospace sciences.

Rocketto earned his pilot certificate before his driver's license. He soloed a Piper J-3 Cub at Waterford Airport on 10 September, 1960 and holds a US certificate with commercial, single and multiengine land, instrument, and advanced ground instructor ratings. While serving with the US government, he also acquired licenses in Peru, Chile, and Australia.



Refueling on the Nazcan Desert

His more memorable flights include the low altitude survey of the Nazca Desert Lines for the Smithsonian Institution-National Geographic Society, doubling Cape Horn, landing at the lowest airport in the world at the the Dead Sea in Israel, and flying missions for Electric Boat to obtain photos of the *USS Groton's* surface trials.