



**The
Daedalean**
Semper Discens

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

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OUR SIXTH YEAR OF PUBLICATION

SCHEDULE

23 MAR-CTWG Cadet Competition
MAR-TBD--SLS-Camp Niantic

27 APR-PT at USCGA (0800-1000)
26-27 APR-CTWG Encampment Staff Training

18 MAY-Commander's Cup Rocketry Competition

7-8 JUN-CTWG Encampment Staff Training

09 JUL-CTWG KC-10 O Flight (Tuesday)
21 JUL-03 AUG-NESA-Camp Atterbury, IN
27 JUL-CADET Ball-USCGA

10 AUG to 17 AUG-CTWG Encampment

SQUADRON AEROSPACE NEWS

***186TH Composite Squadron
Plainville***

Maj Conrad has been leading the cadets through a course in model rocketry.

***143rd Composite Squadron
Waterbury***

The talk by Dr. Sherra Kerns was postponed due to inclement weather. A new date will be announced.

The Waterbury rocketry program has shown notable progress. Twelve cadets have completed Stage One and six others have passed one or two of the three requirements.



A line of cadets launch a Balbo of rubber band powered rockets in the armory.

***Thames River Composite Squadron
Groton***

Cadets visited the US Coast Guard Academy's Nautical Visual Simulator and engaged in a number of exercises involving small boat handling.

The session was run by USCG LT Tom Crowley (Instructor, Nautical Visual Simulator) and Mr. Gary Stookey. Before the cadets eagerly jumped into the simulators (each of which consisted of a TV monitor, steering wheel, throttle, navigation screen, and various other buttons), LT Crowley discussed his experiences in late high school, at the Coast Guard Academy, and as a commissioned Coast Guard officer.

After asking LT Crowley questions about the Coast Guard, the Cadets assumed control of their rigid hull inflatable boats. Cadets began racing each other around Alcatraz Island, navigating by keeping red buoys on their right and green buoys

on their left. Mr. Stookey kept the experience exciting by changing the weather conditions and vessel-type navigated by the cadets.

Simulated Ordinary Seaman Meers struggles to remember the Rules of the Road. Is the vessel to port burdened or not?



Cadet Schultz prepares to go aground on Alcatraz.
(Photo by Capt Wojtuck and Lt Meers)

STATE OF THE WING-AEROSPACE EDUCATION

The CTWG Annual Reports and award nominations were submitted to Northeast Region on time. Two squadrons failed to submit reports before the deadline for the Wing and their data was not included.

The report includes the following data:

The numbers for the 215 Specialty Track, Aerospace Education Officer for CTWG list 19 Technicians, six Senior, and Six Master ratings. Two Technicians and one each, Senior and Master were added this year. However, some squadrons report that their AEO positions are filled by unrated officers.

Five units participated in AEX and six participated in rocketry.

A list of CTWG Aerospace activities follows:

2012 CTWG AEROSPACE EDUCATION ACTIVITIES

Publications

Monthly publication of a Wing Aerospace Education newsletter, *The Daedalean*
Squadron newsletters are now being issued by Thames River, the 143rd, the 186th, and Stratford Eagles

External Outreach

- A. Thames River
 - Lisbon Central School-school visit
 - Ledyard Aerospace Adventurer's Club-Groton airport tour
 - North Branford Intermediate School
 - Ledyard Aerospace Festival
 - Annie Fisher Stem Magnet School-two visits-a/s demos and rocket launching
 - BSA Troop 21-Groton Airport Tour
 - Two Rivers Magnet School-a/s demos
 - Astronomical Society of Greater Hartford-lecture
- B. Stratford Eagles-Bunnell High School
 - Community Connections
- C. 143rd-Oakville School

Field trips (CTWG indicates Wing sponsored trips)

- Astronomical Society of Greater Hartford Star Part-Waterbury and Thames River (CTWG)
- Lifestar-Backus Hospital-Thames River
- Whelen Industries Aircraft-NH Minutemen
- Submarine Forces Museum-Thames River and Silver City (CTWG)
- KC-10 Orientation Flights-Meriden and East Granby
- Westover Air Show-143rd
- Collings Foundation Wings of Freedom Tour-143rd and Thames River
- Propbusters Radio Control Flying Club-Thames River
- Olde Rhinebeck-30 attendees (CTWG)
- US Coast Guard Aviation Day-Thames River

Cadet Private Pilots (Meriden can probably add to this total and so might Danbury), Brendan Flynn-Thames River, Sam Worchester-103rd

Lectures

Richard Doucette-AF navigator career
Thomas Wischart-Seabees
Thomas Allen-USAFA Prep School
Daniel Burbank, USCG (ret.)-International Space Station crewman

NER Glider Academy

Cadets Belliveau and Moore-pre-solo wings-143rd

Aerospace Education Officer's School

Lt Kenneth Fortes-National School-Pensacola,
Maj Stephen Rocketto-NER School-New York

CTWG Cadet Competition

Aerospace Education Test-Prizes won by Cadets Gardner Mulcahy, and Riccio (Stratford), Worchester and Strider ((103rd), Paulson (Royal Charter), and Smyth and Hess (801st)

Military Academy Appointments

C/2Lt Sara Rosborough, USAFA
C/2Lt Drew Daniels-Letter of Assurance-USCGA
C/Maj Brendan Flynn-Acceptance-USCGA

Firearms Safety and Marksmanship Training

CT State Rifle and Revolver Association High Power Clinic-Stratford and Manchester
CTWG Training-TRCS, 186th, Silver City
CTWG Tournament-TRCS-first, 186th-second, Silver City-third
22 cadets qualified for NRA medals

Aerospace Education Program for Senior Members (Yeager Ribbon)

frangible certificates distributed to past awardees
19 awardees in 2012

AIAA Book Program

Books awarded to Thames River, 169TH, 143RD, 103RD, 801ST, 104TH (MAWG)

AE Award Winners

C/Col Margaret Palys-Regional Brewer
C/2ndLt Ashley Kennan 2012 Michael Wallace Memorial Scholarship (sailplane lessons)

CTWG AE Workshop

Attended by 186TH, 143RD, 169TH, and Thames River

International Air Cadet Exchange

C/Maj Brendan Flynn-Australia

Air Force Association Grants

Stratford Eagles, Thames River

Connecticut Wing Civil Air Patrol

2012 Aerospace Education Plan of Action Critique

Green indicates a goal successfully met. Blue stands for moderately successful. Red indicates no success in meeting the goal.

Major Goals in 2012

1. **Manage the Aerospace Education Program as defined by CAP regulations, pamphlets, and policies. Successful!**
2. **Visit all of the CT squadrons at least once in order to study their best practices and canvas them for new ideas. Visits will be conducted by the DAE and the Internal and External AE Officers. Unsuccessful. Only two squadrons were visited.**
3. **Continue to maintain a line of communications with all CTWG Aerospace Education stakeholders by means of monthly publication of *The Daedalean*, the CTWG AE Newsletter. Successful! Twelve editions were published and supplemented by special e-mailings.**

4. Continue to maintain and develop relationships with external agencies and organizations to promote the CAP program. **Successful! Formal contacts maintained with FAA, American Institute of Aeronautics and Astronautics, Experimental Aircraft Association, CT National Guard, Survival Systems, Inc., Aquila Systems, Inc., CT Dept. of Airports and Ports, Westerly Airport Association, and CT Science Teacher Association.**

5. Continue to seek candidates for major CAP aerospace educational awards and honors. **Moderately successful. Two nominations submitted.**

6. Continue to develop and an Aerospace Education program for future Wing Encampments IAW the requirements of pertinent CAP regulations. **Successful! DAE submitted critique of past encampments and attended National Seminar on encampments. DAE has been appointed Deputy Commander for the 2013 encampment.**

Cadet Aerospace Education

1. Continue participation in the CAP Rocketry Program and improve attendance at the Commander's Cup Rocketry Contest from three squadrons to six squadrons. **Unsuccessful. Only one squadron participated in 2012. This may have been due to an last minute change in date and conflict with other activities.**

2. Encourage participation in the AEX Program by providing encouragement, guides, and resources. Improve participation from five squadrons to seven squadrons. **Moderately successful. Six squadrons participated in AEX in 2012.**

3. Continue the CAP/NRA Firearms Safety and Marksmanship Program running three training sessions and a Wing-wide tournament. **Successful! Four one day sessions and a Wing-Wide tournament were held.**

4. Provide an opportunity for one major multi-day Wing field trip to aerospace sites. **Unsuccessful. No multi-day trips were held.**

5. Provide opportunities for two one day Wing field trips to aerospace sites. **Successful! Two**

trips were held.

6. Continue to develop a set of teaching aids for the *Aerospace Dimensions* modules. Complete three Modules and beta test three Modules. **Moderately successful. Two modules have been completed.**

Internal Aerospace Education

1. Establish a format to encourage and promote study by those officers who have not completed the AEPSM. Increase the number of AEPSM awardees from 19 to 26. **Unsuccessful. The format was completed and sent to AEOS but only 17 officers completed the AEPSM in 2012.**

2. Encourage and promote advancement by AEOs who currently are enrolled in the specialty track. All squadron AEOs should achieve a minimum Specialty Track Rating of Technician.

Two AEOs should achieve a Senior Specialty Track Rating. One AEO should achieve a Master Specialty Track Rating. **Moderately successful. Not all squadrons have rated AEOs. Four new Technicians, no Seniors, and one Master track ratings were achieved.**

3. Offer a seminar for Aerospace Education Officers at Wing Headquarters. **Successful!**

4. Offer a seminar in Aerospace Education at the Wing Conference. **Successful!**

5. Set up an Aerospace Education Display at the Wing Conference. **Successful!**

External Aerospace Education

1. Promote Aerospace Education in schools, youth organizations, and social and service organizations. Increase Squadron activity from two squadrons to six squadrons. Increase promotional events from 17 to 26. **Unsuccessful. Three squadrons participated and ran a total of fifteen events.**

2. Work closely with the Wing Public Affairs Officer to promote CAP and Aerospace Education in the community at large. Moderately successful. The post of CTWG PAO has been either dormant or unoccupied. However, a weekly squadron newsletter was broadcast to a fairly wide **range of members of the community outside of CAP.**

CONNECTICUT WING
CIVIL AIR PATROL
2013 AEROSPACE EDUCATION PLAN
OF ACTION

Major Goals

1. Manage the Aerospace Education Program as defined by CAP regulations, pamphlets, and policies.
2. Visit all of the CT squadrons at least once in order to study their best practices and canvas them for new ideas. Visits will be conducted by the DAE and the Internal and External AE Officers.
3. Continue to maintain a line of communications with all CTWG Aerospace Education stakeholders by means of monthly publication of *The Daedalean*, the CTWG AE Newsletter.
4. Continue to maintain and develop relationships with external agencies and organizations to promote the CAP program.
5. Continue to seek candidates for major CAP aerospace educational awards and honors.
6. Continue to develop and an Aerospace Education program for future Wing Encampments IAW the requirements of pertinent CAP regulations.

Cadet Aerospace Education

1. Promote participation in the CAP Rocketry Program and improve attendance at the Commander's Cup Rocketry Contest from one squadron to six squadrons.
2. Encourage participation in the AEX Program by providing encouragement, guides, and resources. The goal is eight participating squadrons.
3. Continue the CAP/NRA Firearms Safety and Marksmanship Program running three training sessions and a Wing-wide tournament.
4. Provide an opportunity for one major multi-day Wing field trip to aerospace sites.
5. Provide opportunities for three one day Wing field trips to aerospace sites
6. Continue to develop a set of teaching aids for the *Aerospace Dimensions* modules. Complete

three Modules and beta test three Modules.

Internal Aerospace Education

1. Establish a format to encourage and promote study by those officers who have not completed the AEPSM. Increase the number of AEPSM awardees from 19 to 24.
2. Encourage and promote advancement by AEOs who currently are enrolled in the specialty track. All squadron AEOs should achieve a minimum Specialty Track Rating of Technician. Two AEOs should achieve a Senior Specialty Track Rating. One AEO should achieve a Master Specialty Track Rating.
3. Offer a seminar for Aerospace Education Officers at Wing Headquarters.
4. Offer a seminar in Aerospace Education at the Wing Conference.
5. Set up an Aerospace Education Display at the Wing Conference.

External Aerospace Education

1. Promote Aerospace Education in schools, youth organizations, and social and service organizations. Increase participation to four squadrons. Run a minimum of 24 promotional events.
2. Develop Powerpoint program to support promotional and informational events.
3. Work closely with the Wing Public Affairs Officer to promote CAP and Aerospace Education in the community at large.

AE REPORT TO WING FOR FEBRUARY

Each month, the DAE submits a report of current AE activities at the CTWG Staff Meeting. What follows is an extract from the February report.

Brief Description of Activities and Accomplishments:

1. The February issue of *The Daedalean* was published and distributed.
2. Attended FAA Safety Team Flight Instructor Forum and discussed National Flight Simulator Project with selected CFIs.

3. Participated in conference calls with key leaders of 2013 CTWG encampment and candidates for staff positions.
4. Contacted Al Gloer, leader of CATO, and set Commander's Cup contest for 18 May.
5. Discussed FFAST Seminar dates with James Adams at the Bradley FSDO.
6. Presented CAP Certificates of Appreciation to Connecticut Friends of the NRA and the Quaker Hill Rod and Gun Club for financial support of Rifle Safety and Marksmanship Program.
7. Engaged in an extended series of communications with Dr. Jeffrey Montgomery CAP A/S Education, Maxwell, on supplementing the recent STEM grant for flight simulators with supplementary curricula material
8. Submitted, on time, CTWG Annual Report and Plan of Action to National Headquarters.
9. Submitted CTWG nominations for Brewer Awards and Aerospace Education Officer of the Year to National Headquarters.

COMMANDER'S CUP ROCKETRY COMPETITION

CATO has agreed to support our contest at their monthly meeting, Saturday, 18 May. The rain date is Sunday. A set of tentative rules follow:

Every squadron will supply one judge.

Flight 1: Tyro Cadets will build an Estes Alpha or Quest Astra 1 decorated in a Civil Air Patrol Theme. The entry will be judged on construction, finish, and flight. Each Tyro Cadet in a Squadron may enter one rocket. A Tyro Cadet is a Cadet who has never participated in the Wing contest. (CAVEAT-The Alpha is the model with balsa fins. Do not order the Alpha III with plastic fins.)

Flight 2: Load Bearing or Multistage Rocket

Flight 3: Historic Air Vehicle

Judging will be based on construction and finish. Finish points will be based on sanding, contouring

of fins, joins of fins to fuselage, and alignment of fins. Finish will be based upon quality of paint application, neatness of decal or marking application, and appropriate markings and colors.

The usual scoring rubric will be used to assess and record points.

Squadrons are responsible for purchasing rockets, engines, igniters, and wadding.

CAP'S AE E-NEWS AVAILABLE

You can view the latest AE e-news Newsbrief from CAP NHQ at:

http://members.gocivilairpatrol.com/aerospace_education/stay_informed/ae_newsbriefs.cfm on our CAP AE web pages.

Some of you already do this but: Please pass this link on to your Aerospace Education Officers in the units and any other interested parties such as your AEMs, PAOs, Cadet Programs leaders, etc., so they may be kept in the loop as far as what is available to CAP members and the latest AE information. We appreciate everything you do to Make Aerospace Real for Students (and teachers as well as other senior members).

AEROSPACE CURRENT EVENTS

F-35 Grounding Lifted

A 0.6 inch crack in one of the turbine blades of the Pratt & Whitney engines which power the Northrop Grumman Joint Strike Fighter caused a temporary grounding of the 64 completed aircraft.

Investigation revealed that the crack was in an engine that had been subject to extreme operating conditions. Some four times longer than normal at high temperatures.

A-29 Super Tucano Contract Awarded

The one year delay in the contact with the Brazilian manufacturer Embraer and it US partner, Sierra Nevada Corporation has been lifted. The contract for the light support aircraft was suspended when a dispute arose between the

winner and Hawker Beechcraft, the company which proposed its AT-6 Texan II.

The \$427 million dollar purchase will buy 20 A-29s for the Afghanistan Air Force to use as trainers, reconnaissance, and light attack aircraft.

AEROSPACE HISTORY

Lend Lease

Seventy Two Year Anniversary

LtCol Carl Stidsen recently reminded the editor of *The Daedalean* about "Lend-Lease," the US program which supplied material support to our World War II allies. A group of aviation history enthusiasts, the Bravo 369 Flight Foundation, are engaged in a project which will celebrate the transfer of US aircraft to the Soviet Union via Alaska. Col Stidsen provided some interesting material and The Coastwatcher decided that the lend-lease was such an important event that it ought be recognized in our pages.

By mid-1941, Great Britain and its Commonwealth Allies had been fighting the Nazis for a year and ah half. China had been in a hot war with Japan for almost five years. The resources of those who would become our allies were close to exhaustion.

Meanwhile, the United States, bound by the Neutrality Acts of the 1930s followed a "cash and carry" policy. If a belligerent nation wished to acquire goods, they paid cash and carried the purchase home in their own hulls.

President Franklin D. Roosevelt and key figures in his administration were perceptive enough to realize that the fall of Great Britain would be detrimental to the security of the United States and searched for a solution. Resistance to involvement in the European conflict was strong, even to the issue of selling supplies. Isolationists, recalling the carnage of World War I, wanted the United States to avoid any participation in overseas wars. Pro-Fascist elements and the large population of citizens with German and Italian roots were leery of supporting Britain. And interestingly, the our military resisted, knowing that the transfer of large

quantities of war goods would weaken the build-up of US forces.

Britain had used most of its dollar resources of its hard currency to keep itself in the fight and was becoming desperate for a source of war materials. Parliament went to far as to take over all British dollar assets in the United States; real estate, business operations, and cash, paying off the owners in pounds sterling. Additionally, a flow of high value goods such as whisky and wool garments were exported to the United States in order to provide more of the hard currency needed but it was not enough. By the beginning of 1941, some three-quarters of the British cash reserve was gone. Prime Minister Winston Churchill appealed to President Roosevelt saying "give us the tools and we will finish the job."

The plan which the Roosevelt administration developed came to be known as lend-lease. Roosevelt commented that when one's neighbors house is on fire and your is endangered, you do not sell him your garden hose at market value but lend it to him expecting it to be returned when the crisis has passed. Under the terms of lend-lease, huge quantities of war supplies were either given on leased to Great Britain. Record keeping was spotty and neither limits nor provisions for repayment were established. The total value of the entire program came to around 650 billion dollars in today's currency and most of it was either never returned or paid for with a generous 10% discount. Churchill stated this to be "the most unsordid act in the history of any nation."

On 11 March, 1941, almost eight months before Pearl Harbor, the House of Representatives passed, by a vote of 317 to 71, "An Act to Promote the Defense of the United States"-better known as "Lend-Lease."

The deal was not one way. The British send us valuable technology. The cavity magnetron, the key to effective radar went to Massachusetts Institute of Technology for further development. Rolls Royce licensed Packard to build the fabulous Merlin engine which made the North American P-51 Mustang the best long range fighter of the war and powered our PT boats. Frank Whittle's

revolutionary jet engine, the W1.X was sent to General Electric in Lynn, Massachusetts and by 1942, Bell was flying our first jet fighter, the XP-59A Airacomet and in 1944, Lockheed completed the XP-80 Shooting Star. The US also were given many British aircraft for special purposes, notably the Supermarine Spitfire, Dehavilland Mosquito and Bristol Beaufighter. An earlier deal also provided 50 overage four-piper destroyers in exchange for 99 year leases or rights on naval bases in Canada, the Bahamas, Bermuda, the Caribbean, and British Guiana.

One of the earliest models bought by Great Britain was the Lockheed Model 14 Super Electra which was converted almost overnight by Lockheed into The Hudson maritime patrol bomber.



This Hudson IIIA carries Australian colours and is in the RAF Museum, Hendon.



Model 18 Lodestar, the Hudson's big brother, was designated as the C-60 by the USAAF.

The aircraft which we constructed for Great Britain and our other allies were of 75 different types and the final production numbers totaled approximately 39,000 aircraft. The most popular model was the North American T-6 Texan which the British named "Harvard." Five thousand of these trainers were used in the Empire Training

Scheme, based in Canada, Great Britain, and Rhodesia.



Lend lease Trainers were named after U.S. universities. The Harvard in the foreground is backed by a Fleet built PT-26 Cornell.



The Stearman PT-13B did not prove satisfactory. The open cockpit made life unpleasant and learning difficult for the student pilots in the Canadian north winter weather. Cornells replaced them.

The Curtiss P-40 Warhawk, known in British service as a Tomahawk or Kittyhawk, placed second in number with 3,500 supplied, many of which did yeoman service in the North African and Middle East campaigns.



Kittyhawk III

Consolidated LB-40 Liberators, a version of the B-24 were used as long range transports and even more importantly, by Coastal Command. Their range enabled them to patrol what had been called the mid-Atlantic Gap, and mitigate the damage done by German submarines. Most remember the (air)

Battle of Britain but few recall the (sea) Battle of the Atlantic. If the supply route from the new world to the beleaguered Britains had been severed, the war would have been lost. The Liberator was one reason for the triumph in the Atlantic.



This "Lib" was seconded to the Indian Air Force.



The Consolidated PBY-5A Catalina, known as the Canso, along with the Liberator, served to fill in the Mid-Atlantic Gap during the Battle of the Atlantic.

Fairchild's sturdy trainer, the PT-26 Cornell went Canada, South Africa, Rhodesia, and India. Production overwhelmed the Hagerstown, Maryland factory so a factory was constructed in Canada operated by Fleet aircraft. The final production totaled some 2200 aircraft.

Connecticut's own F4U Corsair, most produced in Bridgeport, was supplied also, about 2,000. British Corsair pilots trained at Quonset Point, Rhode Island. The Royal Fleet Arm were the first to master the aircraft for carrier operations. The US Navy had so much initial difficulty that they transferred the Corsair to the US Marine Corps for land based operations.

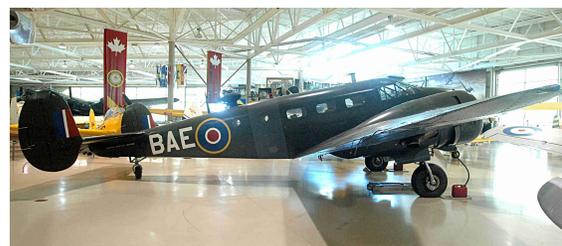


The Goodyear built FG-1D Corsair displays the markings used in the Pacific. The red center of the RAF and Fleet Air Arm was deleted to avoid confusion with the Japanese Hinomaru ("meatball").

Two icons of aviation, the Douglas C-47 Skytrain and the North American P-51 Mustang tied in lend-lease numbers at around 1,800 apiece. The British called the Gooney Bird, the Dakota. This is an acronym for for "Douglas Aircraft Company Transport Aircraft (DACoTA). The Mustang was actually a British idea and was originally supplied with an Allison engine with insufficient power for performance at altitude. When a British pilot suggested trying the supercharged Rolls-Royce Merlin, the resulting aircraft emerged as a superstar.



The Australian use of the Dakota to air drop supplies to its troops in the New Guinea campaign led to another nickname, "biscuit bomber."



The Beech Model 18, USAAF C-45 Expeditor, served as a light transport. This example is in the Canadian Warplane Heritage Museum.

Two other aircraft also tied with around 1,200 each supplied through lend-lease. The first is the F6F Hellcat, built just off the Connecticut shoreline by Grumman on Long Island. First called the Gannet by the Brits, they soon reverted to the more familiar Hellcat. Many served on carrier in the Indian Ocean and the final stages of the war in the Pacific.

The aircraft sharing honours with the Hellcat is none other than the “Bamboo Bomber, the Cessna T-50 Bobcat which was used as a twin engine trainer by the British Commonwealth Joint Air Training Plan.



T-50 known to the Commonwealth air forces as the Crane Mk 1

A few of the utility aircraft supplied to the British included the Fairchild UC-61 Forwarder and the Stinson Reliant



UC-61K known to the Brits as the Argus III.



Stinson SR-10 Reliant wearing D-Day invasion stripes.

Although the British and Commonwealth nations received a goodly share of lend lease largess, other countries, primarily Uncle Joe Stalin's Soviet Union were on the receiving end of the goods which poured out of the US factories and farms.

About 15,000 aircraft were flown or shipped to the Russian forces. Although much was shipped by sea via the North Atlantic and Murmansk or ports in Iran, The Alaska-Siberian (ALSIB) air route accounted for about half of the aircraft. The ALCAN Highway, a monumental engineering feat, was constructed to support this The North

American portion of the route has provided a harvest of aircraft and parts to modern warbird enthusiasts. Rudimentary navigation aids, inexperienced crews, and weather caused losses amounting to 5%. The Soviets recognized the importance of the ALSIB efforts with a series of commemorative pins.

The route had several starting points, Great Fall, Montana being the principal base for west coast produced aircraft. It ran north through Canada to Whitehorse, British Columbia and then turned westward towards Fairbanks and ended in Krasnoyarsk, Siberia. Soviet pilots generally met the aircraft at Ladd Field and then flew them across the Bering Straits. Bell Aircraft in Buffalo, New York and other eastern aircraft manufacturers sent their products to Wold-Chamberlain Airport in Minneapolis, Minnesota as the intermediate stop.



Red starred P-63E Kingcobra at Pima

Bell's P-39 Airacobra and P-63 Kingcobra were favored by the Red Air Force which generally engaged in front line missions at low altitudes in support of their ground forces. Approximately 3,000 P-39s and 2,400 P-63s were supplied under the lend lease arrangement. Other aircraft included the Douglas A-20 Havoc and C-47 Skytrain, North American B-25 Mitchell, and the North American T-6 Texan and winterized Stearman PT-17 Kaydet trainers.

An astounding amount of other supplies: chemicals, food stuffs, tooling, machinery, and construction materials were also supplied, mostly by sea through the ports of Murmansk and Archangel, with some from the south via the Persian Gulf and Iran, and from the west via Vladivostok in the Pacific. Total aid to the Soviet Union alone is figured at around 11 billion dollars.



This collection of pins, issued by the Soviet government, celebrates the achievements of ALSIB. The central pin depicts the route. From top left, each pin recognizes a major aircraft which was flown to battle along the route: clockwise) B-25, P-39, P-63, C-47, and A-20.



Mitchell III, a B-25J in British colours were supplied to the Soviet Union also.

The Soviet army mobility was enhanced by 375,000 Dodge ¾ ton trucks and Studebaker “deuce and a halves.” 2000 locomotives, and 15 million pairs of boots. Napoleon said that “an army moves on its stomach” and Nikita Khrushchev stated in his autobiography, “Without Spam, we wouldn’t have been able to feed our army.” That reference is to the almost 500,000 tons of canned meat shipped. An anonymous piece of World War II doggerel says it all:

*Now Jackson had his acorns
And Grant his precious rye,
Teddy has his poisoned beef--
Worse you could not buy.
The doughboy had his hardtack
Without the navy's jam,
But armies on their stomachs move--
And this one moves on SPAM!*

The lend-lease program was terminated shortly after Japan's surrender and the former allies entered into a half century of low level conflict known as 'the Cold War.’’ But during the time of mutual cooperation, 38 countries received aid under lend-lease and after the war, most of the debts were forgiven. France and England returned most of the 8 billion dollars recovered but the Soviet Union refused to make any payments. But as Robert Taft said, “Lending arms is like lending chewing gum. You don't get it back.