



The Daedalean Semper Discens

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SCHEDULE

10 AUG to 17 AUG - CTWG Encampment

SQUADRON AEROSPACE NEWS

*143rd Composite Squadron
Waterbury*

The 143rd continued its support of the Goshen Stampede, Goshen Conn., for the fourth year. The annual event raises funds to support local and regional charitable and military organizations. The 143rd, the 103rd, East Granby, and the Northwest Hills Squadron out of Torrington managed the parking areas during the three day event.

Cadets participated in fair activities and were even able to launch rockets as part of their qualification course with several of them completing the second phase of the rocketry program.



C/2nd Lt Foster Prepares His Rocket.

*Thames River Composite Squadron
Groton*

Maj Roy Bourque and LtCol Stephen Rocketto participated and FAA Aviation Career Academy directed by Mr. Stuart Sharack, a CAP Teacher of the Year and Mr. Alec Rode. Rode is an elementary teacher in the Ledyard school system and Sharack recently retired from Ledyard.

The student made field trips to Survival Systems USA, the 1109th TASMG Connecticut National Guard, were offered airplane rides by Coastal Air, Inc. and practiced with flight simulators. MysticJet provided facilities during the week long program.

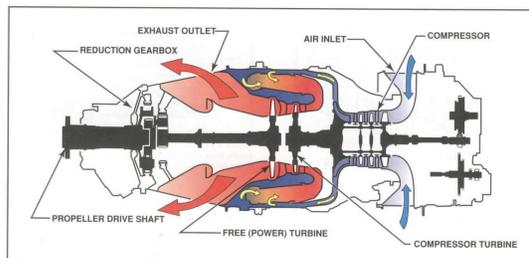
AEROSPACE HISTORY

50th Anniversary of the PT-6

In the late '50s, Pratt and Whitney started development of a turbine replacement for the iconic Wasp radial engine. The result was another iconic engine, the PT-6.

The first PT-6 was flight tested in 1961 on a Beech 18 based at Downsview Airport in Ontario, Canada and has been a mainstay of P&W Canada's production base.

In most aircraft, the engine is mounted backwards with the intake facing the rear! This innovative feature allows the power section to directly drive the propeller, eliminating the need for a long shaft.



PT-6 Schematic

Models run from 500 to 2,000 shaft horsepower and can be obtained in some 70 different flavors. Production has now exceeded 40,000 units with the Beech King Air, the launch aircraft, accounting for some 8,000 of them. Here are some aircraft from around the world using the PT-6.

The “Big Three” US General Aviation Manufacturers



Beech King Air 200



Cessna 208 Caravan



Piper PA-31T Cheyenne

Dehavilland of Canada



The Classic DHC-6 Twin Otter



DHC-3 Otter conversion

Shorts of Northern Island



Shorts 360-300



Shorts S-23B Sherpa

Israel



IAI 202 Arava

Switzerland



Pilatus PC-12

Brazil



Embraer 110 Bandeirante

AEROSPACE CURRENT EVENTS

SOCATA of France



A Covey of TBMs

Military Prototype



Beech PD373 (T-6A Texan II) at Pax River

Helicopters



Sikorsky S-76B

And a New Bush Plane



Quest Kodiak 100

The UAV Controversy

The introduction of drones to US airspace has created controversy based upon two issues.

The first is the obvious problem of flying unmanned aircraft under the “see and avoid” principle which governs manned aircraft. Some unmanned aircraft have limited or no ability to display visual flight information to their control stations. In fact, autonomous drones are essentially programmed for a mission and not “flown” by a ground based operator.

Two unmanned types have recently been certified by the FAA. Insitu's Scan Eagle X200 and the AeroVironment PUMA are expected to begin commercial flight operations this year. Both vehicles will be used in the far north. Scan Eagle will be used off the Alaska coast to image ice flows and migrating whales. PUMA will be used to monitor oil spills and wildlife over the Beaufort Sea.

The Federal Aviation Administration is struggling to delineate rules for operating UAVs in US airspace and face a 2016 deadline for implementation. Until that time drones are restricted to special airspace and altitudes.

Although drones are extraordinarily valuable as tools for resource management, search-and-rescue operations, and to deliver real-time data during crises such as wild fires, their use by government agencies for law enforcement is suspect.

Recent actions by local, state, and federal authorities have raised constitutional questions about the extent of the police powers wielded by government. Not all are drone related. The selective searching by Customs and Border Patrol agents of aircraft, the illegal jailing of a glider pilot for flight in the vicinity of a nuclear power plant, and the collection of private electronic data by the National Security Agency are three examples which have come under scrutiny.

Use of UAVs by police agencies are another aspect of the problem which concern civil libertarians.

Many of the laws which govern surveillance by the advanced imaging devices which drones carry are still to be written but many citizens are troubled by the threats of invasions of privacy by airborne spy craft.

Pilots Needed!!!!

Ironically, the implementation of UAVs by the USAF resulted in a large program to train drone operators and the price was a reduction in the training of pilots.

Now, Air Force planners see a short-fall in available fighter pilots over the next seven years. Reduction in training is only one reason for the shortage. Pilots are not reenlisting after ten years of service for a number of reasons. Airlines, which also face a shortage of pilots are offering better pay packages without the threat of deployments to combat zones and the changing face of military flying assignments, drone duties and shifting assignments have become less attractive given the civilian alternative.

As a consequence, the USAF is offering a retention plan which offers \$25,000 yearly bonuses for ten more years. Today, only about 65% agree to “re-up” and since it costs around six million dollars to train a pilot, the Air Force is very interested in keeping those which they already have.

100 LL Issue

The rising price of aviation gasoline and its lead content have made diesel and Jet-A attractive alternatives for general aviation. Cessna is flying a Skylane using diesel fuel, a US company is planning of producing a lead free, ethanol free gasoline, electric energy, blended fuels, and hydrogen has been used experimentally and natural gas is under consideration.

All of these new fuels face not only a stringent economic challenge for development and sales cost but also meet difficult technical standards before they will be adopted.

Experiments with aviation fuels are a part of the history of aviation. The quest for high octane

fuels to provide reliable operations of high compression engines involved none other than Jimmy Doolittle who worked with Shell Petroleum.

Hydrogen has been tried with a number of aircraft and Blaugas, a variation on propane was used to fuel the Graf Zeppelin. Nuclear power was considered and the USAF flew a B-36 with an operating nuclear reactor but did not use it to power the aircraft.

What is most likely is that the days of 100LL may be numbered as pressure from environmentalists and financial considerations reduces its availability and increases its cost.

A COUPLE OF HISTORIC CAP AIRCRAFT AT THE NEW ENGLAND AIR MUSEUM



The Stinson 10 carries a small bomb for use against U-Boats. The red propeller inside the CAP insignia was eliminated as a war-time camouflage effort.



The Sikorsky S-39B Amphibian starred in a famous rescue effort earning two CAP members Air Medals