



PREFLIGHT

Chairman's Message: General Paul Tibbets to Speak at Section Dinner July 13, 2001

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The luncheon sponsored by our Section on January 12, 2001, featuring Gen. Joel Paris, III was a success. Gen. Paris described his flights in the Southwest Pacific flying the P-40N Warhawk as well as the P-38 Lightning. An ace credited with 9 confirmed kills, the descriptions by Gen. Paris of his combat accounts made for an interesting presentation during our luncheon.

With Summer quickly approaching, I hope you will all turn



General Paul W. Tibbets

your thoughts to Friday, July 13, 2001, at 6:30 p.m. when our Section will present Gen. Paul Tibbets as our dinner speaker. The dinner will be held at the Crowne Plaza Atlanta—Power Ferry Hotel, located at 6345 Powers Ferry Road, N.W. Reservation forms can be downloaded at www.gabar.org/avlaw.htm and the deadline to respond is July 6.

You may know that Gen. Tibbets was the

command pilot of the B-29 Superfortress that dropped the first atomic bomb on Japan. Gen. Tibbets named his aircraft after his mother, "Enola Gay." The decision to drop the atomic bomb on Japan was controversial. Harry Truman knew nothing about the existence of the Manhattan Project until the death of President Roosevelt. After the death of President Roosevelt, President Truman was confronted with the difficult decision about whether or not to unleash atomic destruction on the island of Japan. The reason given for dropping the

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Gen Paris discusses flying the P-38 at the Mid-Year Meeting



P-38 Lightning

Chairman's Message (cont.)

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atomic bomb on Japan was that the Japanese had fought American armed forces fiercely throughout the Southwest Pacific. Japanese soldiers had mounted suicide charges on American troops, and Japanese pilots were engaged in suicide missions focusing primarily on aircraft carriers. Rumors circulated that the Japanese had amassed a fleet of kamikaze aircraft that would be unleashed upon American surface vessels as they approach the island of Japan. For whatever reason, the decision was made to drop the atomic bomb on Japan, and General Tibbets was the command pilot of the aircraft that delivered the nuclear weapon.

The presentation by Gen. Tibbets this July is the most ambitious activity undertaken by this Section during my tenure as your Chairman. We are committed to the cost associated with dinner, a room, video equipment, and the cost of transporting the General and people who accompany him on the speaking engagements. I will remind you that the Gen-

eral is over 80 years of age, and we are fortunate that he will come to us for purposes of making his presentation. His presentation normally includes a videotape describing the events surrounding his mission in August of 1945. Additionally, the General will be autographing and selling his book, Enola Gay. Also, Marc Stewart, a noted aviation artist, will be on hand with aviation artwork, including a depiction of the Enola Gay. The cost for attending this dinner will be \$45.00 per person, and I hope that all members of our Section will place this event on their calendar NOW and sign up to attend this activity of our Section. Registration will be on a first-come first-served basis, so I urge all members of this Section to promptly fill out their application to attend this Section activity.

I wish each and every member of our Section a happy Summer, and I hope I will be seeing each of you at our dinner for Gen. Tibbets on July 13 of this year.

—Happy Landings, Alan



Alan Armstrong and John Webb both received awards of appreciation at the Mid-Year Meeting for all their hard work in 2000



Gen. Tibbets and the Enola Gay

From The Editor

I hope this edition of the aviation newsletter finds you well. This is my first issue "on my own", and I have tried to keep the same format as before with a few tweaks here and there, including a new name. Comments about design and future articles are always appreciated, as well as submissions on any number of topics regarding aircraft

and aviation law.

I am very pleased to have Joel Sherlock writing the piece about the Adams M-309, a cutting edge aircraft in both layout and composite design. Future articles will include a look at the new TRACON in Peachtree City, as well as a review of the numerous safety changes aviation litigation has brought about due to

the TWA Flight 800 crash.

Please forward any submissions to me at mjlaw@bellsouth.net or call if you have an idea about a particular subject that you think would interest the section. I look forward to seeing all of you at the Tibbets Dinner in July. — Mark

Adams Aircraft Industries M-309: This Isn't Your Father's Skymaster

By Joel Sherlock

The M-309 is a new and rather different type of aircraft being developed by a small company out of Englewood, Colorado named Adam Aircraft Industries. Adam Aircraft Industries (AAI) is a newcomer in the aviation world. They are trying to carve out a niche for themselves in the competitive aircraft production market by combining some new technologies with some old ideas that have seemingly been overlooked for the last twenty to thirty years. The new technology, carbon fiber composite, is not really new but is now coming into its own as a viable alternative to its heavier and more rigid metal counterparts. Composites have been used for a number of years in the kit/experimental aviation field with pretty good results. The old ideas which AAI is reviving are the twin engine centerline thrust ("push-pull") concept and the twin boom rear stabilizer.

While there may be some debate among purists as to the origin of the push-pull concept, the first patent and successful demonstration of the design came in the midst of World War II by the German aircraft designer Claude Dornier, who patented his creation in 1937.

His design resulted in the Dornier Do-335 "Arrow" or "Pfiel" as the Germans called it, and was arguably the best aircraft of its time. Its twin



Adams Aircraft Industries M-309

engines made it the fastest piston engine aircraft of its time with a maximum speed of 477 mph; while its center line thrust made it very stable and easy to fly notwithstanding its "flying battle wagon" status of hauling two 20mm cannons, two 15mm cannons, and one 30mm cannon. Luckily for the Allies, the Ger-



Dornier Do-335

mans delayed the Do-335 production for many years and it did not enter service until November 1944. While

it reeked havoc on Allied bombers in its short stint in the war, it was too little too late for the Germans and all but one of the mighty Do-335's were doomed to be scrapped. After the war the push-pull idea seemed to have been forgotten for many years and then was reborn when Cessna decided to build the 336 Skymaster in 1963.

Most pilots and aviation enthusiasts remember the twin engine center line thrust design from the Cessna 336 Skymaster and 337 Super Skymaster aircraft hailing from the 1960's and 70's. Cessna was the first company to ever use such a design for a production light aircraft for civil aviation. Cessna's goal, which it achieved handily, was to build a lightweight, low cost, easy to fly twin engine civil aircraft which eliminated the need for a twin engine rating yet still provided twin engine safety and capability. The push-pull concept, as it is called, reduced the drag on the aircraft which resulted from wing mounted engines and eliminated the problems inherent with asymmetrical thrust in the event of engine

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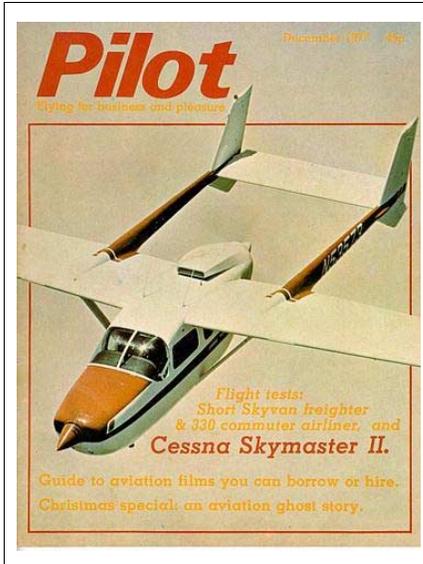
Cessna O2-A

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failure. The United States Air Force's Forward Air Control took note of the 337 and Cessna was subsequently commissioned to modify the 337 for military use and it was renamed the O2A. The O2 proved to be quite durable and showed it could withstand an amazing amount of damage and still remain flyable. While a few O2's were shot down, many successfully returned home with severe damage, requiring complete replacement of major components including portions of wings, tails, and in one instance an entire left tail boom. (If the M-309 can repeat that feat this author will most assuredly place his name on the buyer's list). Cessna's success with the 337 again proved the validity of the push-pull concept but demand for the planes dwindled after time and the idea languished for many years.

Enter AAI founder Rick Adam and master aircraft designer/builder Burt Rutan who have decided to revive the push-pull concept for what is now called the M-309. The M-309 represents the 309th complete design for Rutan, hence the designation number. The aircraft is a remarkable piece of engineering merging some new and old ideas and new technologies which are vying to become the standard in the industry rather than the odd-man-out. As for how the M-309 looks, Joseph E. "Jeb" Burnside from Avweb said it

best, "as it currently exists, the M-309 resembles the results of an immoral encounter between a Cessna 337 Super Skymaster, a New Piper Malibu, and a Vietnam-era OV10 Bronco ground-attack platform." It has the push-pull engine configuration of the 337, the extended nose of the Malibu, and the twin rear booms with one solid horizontal stabilizer of the OV-10.

The already flying prototype M-309 has a 42-foot wing span, is 34.5 feet long, and 9.5 feet high. AAI is projecting the production model M-309 will have a 2,300 pound useful load with a fuel capacity of 250 gallons. At 20,000 feet, the



Cessna Skymaster II

plane will have a maximum speed of 250 knots, will cruise at 220 knots, with an

economy cruise of 190 knots. The economy cruise should yield a range of approximately 1500 nautical miles. It has a stall speed of 75 knots and is pressurized for 8,000 MSL. It is powered by two Teledyne Continental TSIO 550 turbo-charged engines which will produce approximately 350 hp and will be conveniently controlled with single levers for each engine.

AAI is currently taking deposits for the first 20 production aircraft. The price tag is \$695,000 and a \$25,000.00 deposit is required to get your name on the list. While \$695,000 is quite obviously an enormous amount of money, anyone who has shopped around for a new six passenger pressurized twin lately can tell you (if you can find one) the price is remarkably reasonable. It is likely that price will not last if the company does as well as its executives hope and once the final costs are calculated for producing the delicately balanced airframes they propose.

The M-309 is currently in the first phase of aircraft type certification and AAI is one of the first private U.S. aircraft manufacturers to use the FAA's new "streamlined" process for aircraft certification. The goal of the FAA's Cer-

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Joel Sherlock practices primarily in the areas of eminent domain and commercial litigation in Macon. He is an active member of AOPA, a student pilot, and a life long aviation enthusiast. He served in the United States Air Force from 1988 to 1996 on both active duty and reserve as an aviation fuels specialist and was trained in aviation cryogenics. He has worked for America West Airlines at McCarran International Airport and the Scenic Airlines F.B.O.

Thai Airlines Explosion Prompts FAA Action About Boeing 737 Center Fuel Tank Pumps

By Mark Stuckey

A 737-300 explosion two months ago has resulted in further FAA safety action regarding the dry operation of center tank fuel pumps.

On March 3, 2001, Thai Airways Flight 114 exploded while at the terminal in Bangkok. A flight attendant was killed and seven persons were injured.

Flight 114, a nine year old 737-400, was scheduled to fly the Thai prime minister, thus creating speculation regarding a bomb; however, initial tests have not turned up any supporting evidence. In a scenario eerily reminiscent of TWA Flight 800 and the 737 explosion in Manila in 1990, it appears that the center tank fuel pumps were being utilized when there was a minimal amount of fuel in the center tank.

The FAA has responded to Flight 114 by issuing an Airworthiness Directive (AD 2001-08-24) requiring that all US Airlines not operate the center tank fuel pumps when there is less than 1000 lbs of fuel in the tank. The AD, which will result in minimal changes in the aircraft manual, will cost an estimated \$60 per plane. As noted in the AD, extended operation of fuel pumps dry leads to the likelihood of increased heat or sparks in the fuel pump apparatus, leading to a greater probability of



Remnants of Flight 114

vapor ignition in the center tank. Thai Airlines Flight 114 had been sitting at the terminal with the air-conditioning running for a minimum of 40 minutes, which also led to concerns about the heat generated by the air-conditioning units. The 737 air-conditioning units are located directly underneath the center fuel tank, thereby increasing the overall temperature of the vapors in the tank.

If this all sounds strangely reminiscent, it should. The investigation into

TWA Flight 800 strongly pointed to high temperature of the vapors of the near-empty center fuel tank, due to the operation of the air-conditioning units at the terminal for over 2 1/2 hours. What created the spark in the center tank is still being debated, but one of the major suspects in the investigation was the center tank fuel pump.

The same deadly scenario was played out in Manila in 1990, when a Philippines Air 737-300 that was less than a year old exploded as it was being pushed back from the terminal, resulting in 8 deaths and 30 injured passengers. After a bomb was ruled out, authorities concluded that a spark in the near-empty center tank was the most likely cause of the explosion.



A spark caused by dry operation of the center tank fuel pump is the primary suspect in the deadly explosion.

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P-40N Warhawk

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tification Process Improvement (CPI) plan being to streamline the type certification process by getting the FAA technical experts involved with aircraft companies earlier in the process and trying to eliminate some of the delays and cost overruns at the end of the process which have been a hallmark of type certification for years. Of course, the manufacturers who are at the FAA's mercy for certification think it's a great idea. But, it remains to be seen whether this process will work as advertised or will be just be more of the same. As for the M-309, if anyone can



Adams Aircraft Has High Hopes for the M-309

get the plane successfully through type certification its Rutan and his group at Scaled Composites, Inc.

Its cheap, light, fast, and on the cutting edge of aviation technol-

ogy. So what's the catch? Quite simply, composites. One of the M-309's major strengths is also one of its biggest concerns. The problem with working in composites is the delicate balance between strength vs. weight. If a part is built to withstand heavy loads and high stress then it will necessarily be very heavy. If a part is designed to be very light then it can break under stress. Because the weight of carbon fiber and epoxy, the building blocks of composites, are not as readily measurable as a sheet of aluminum the engineers have their work cut out for them in designing a production system for accurately repeating the process of building airframes both strong enough to survive severe IFR conditions and yet light enough to get the M-309 airborne without the use of an 8000' runway. The upside to composites are they produce more aerodynamic and smoother air surfaces due to the elimination of rivets, they are generally more flexible, they do not corrode like

metal, and are generally lighter thus allowing larger airframes with less weight.

So, what is the M-309? In the final analysis, the M-309 could be the beginning of a significant paradigm shift in aviation design and manufacturing. Many things are left to be seen however, whether the composites issue will make production of the M-309 impractical, whether the type certification process proves too much for AAI, and whether the future of private aircraft is already here. We shall see. By the way, if you're interested, the company is in the process of giving the plane a real name. (M-309 being about as exciting as those names NASA gives stars) If you would like to get in on the AAI contest to name the M-309 or if you would like to order one of your own, check out AAI's website at (<http://www.adamaircraft.com>).