

CPA FLIGHT LINES

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In honor of WWII B24 Pilot & USAF Col. Brad Dolliver.
Photographs and article (page 3) are courtesy of the Pueblo Cheiftain.

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President's Message

by CPA President Bart Jones

It has been more than 30 years since Mary and I bought our plane. To this day I clearly remember the wonder and excitement of our first trips. Over the years that little plane has been the source of endless adventures throughout Alaska, the back country of Idaho, Mexico, the Bahamas and all over the continental US. You would think the sense of wonder would have dulled by now, but not so. A fishing trip to Northern Saskatchewan over Labor Day demonstrated yet again the magic of general aviation. Even though I have made this trip before, this particular trip will be remembered for a life time. Inviting my long time friend and college room mate, made it special. Sharing the flying chores made the trip easy and fun. Even a trip of 1,150 miles is within the one day capabilities of the humble C170 if you are willing to start early enough in the morning. Beautiful weather and matchless scenery made the hours slip by and we landed at the lodge just in time for dinner. A crystalline night watching the *Aura Borealis* followed

by two days of glorious weather, fabulous fishing, good food, and the companionship of other CPA members and friends made the weekend unforgettable. The trip back started with rainy but flyable weather and a little instrument work, just to make the flight interesting. That was followed by clear skies and a tailwind home. It was well past dark as we passed over Denver and enjoyed the spectacle of the lighted city spread out before us. We parked the plane at 10:30 that night and reveled in the wonder and satisfaction of what we had done in just four short days. The magic of general aviation is still there as strong as ever.

I encourage you to keep the magic of flying alive even in the face of daunting fuel prices.

My solution is to share the excitement with more friends, and invite them to share the cost with me.

Speaking of sharing the magic, please mark your calendars for Saturday November 5 and join us for the CPA Annual Meeting.

Share the magic! Bart



A Pueblo flying club honors World War II pilot U.S. Air Force Retired Col. Brad Dolliver.

Brad receives a handshake and words of thanks from Dave Napier.

Pueblo Chieftain
Photo / John Jaque

He Just Did ‘His Job’

by Peter Roper courtesy of The Pueblo Chieftain

When Brad Dolliver headed off for combat in World War II, he told his wife, Ann, goodbye the only way he knew how to from behind the controls of a B-24 bomber. “I’d called her at her job (in Pueblo) and told her to look up in the sky about noon,” Dolliver recalled with a laugh. “And then I brought the airplane down to low level right over the Courthouse and ‘buzzed’ down Main Street, throttling back the engines so they’d backfire.”

Dolliver banked the four-engine bomber, named the “What’s Cooking Doc?,” toward Kansas and, beyond that, war-torn Europe. His wife recalled the bomber was flying so low over Main Street she could see Bugs Bunny painted on the side and the tail gunner waving at her as the big Liberator flashed past.

Dolliver, 88, wasn’t certain that he’d live through the war. But he went on to survive 30 missions over Europe and Germany, including getting shot down on Christmas Day 1944. Along the way, he was awarded the Distinguished Flying Cross and his crew was promoted to a Pathfinder squadron because of their reputation for accurate navigating.

And perhaps most importantly, Dolliver got his crew through the war with just one wound. Shrapnel from anti-aircraft fire, commonly called flak, clipped one of his gunners on their 30th and final mission - a flak-clouded bomb run over Worms, Germany.

“I had a damn good crew,” Dolliver explained, tearing up with emotion.

He just did 'His Job' continued from page 3

And good friends, too. Saturday morning, Dolliver's friends in the Sky Corral radio-controlled airplane club named their flying field in Dolliver's honor. The field is located off Woodleaf Drive, just west of Pueblo Motorsports Park. Dolliver wasn't entirely comfortable with the attention and honor his friends gave him. Like so many decorated veterans, he described his World War II flying days as "just doing my job. We all did our jobs."

But Nick Dario and Dave Napier, two local businessmen, don't agree. They had long been Dolliver's friends, snowmobiling buddies, before they ever had a glimmer that he'd been a decorated military pilot in World War II and after.

"It's not anything Brad ever talks about," Dario said. "But when Brad and the men like him are gone, they will take so much of our history with them. We just wanted him to know how much we appreciate what he did."

Dolliver, a native of Hamilton, Mass., started flying as a teenager. Back then, he was a soda jerk in his hometown and remembered when another famous local boy - Gen. George S. Patton - would come in the store.

"Patton always cussed a lot," Dolliver confided.

Their paths would cross again during World War II, but at different altitudes. Dolliver was among the B-24s bombing targets ahead of Patton's 3rd Army in France. The list of missions Dolliver flew reads like the European campaign. One of the crew kept a journal and there are three missions in a row from October 1944 - "Oct. 14, Kaiserlauten, Germany. Light flak; Oct. 19, Mainz, Germany. Diesel Factory. Heavy flak; Oct. 26 Bottom, Germany. Oil refinery. Intense flak."

Which explains why Dolliver's bomber was shot down by flak two months later on Christmas Day on a mission to Euskirchen, Germany. The anti-aircraft fire knocked out two engines on Dolliver's bomber, and crippled a third engine, meaning the aircraft would never make it back to the airfield in England.

Losing altitude and heading for the American lines in France, Dolliver spotted an open field. He told the crew to bail out, but they chose to stick with him while he tried to land the plane, despite fog that was close to the ground.

"It turned out to be the best, softest landing I ever made in my life," Dolliver said with a shake of his head. "One of the guys always said afterward that I saved their lives that day, but like I told him - I was saving my own, too."

Bumming a ride with a Frenchman in a truck, Dolliver thought his crew was being taken toward the American lines until his navigator said they were headed the wrong way.

“Somehow my .45 ended up in that Frenchman’s ear and we got that truck turned around,” he said.

After the war, Dolliver became a pharmacist and returned to Pueblo - his wife’s hometown - to work at Grove Drug. But then the Korean War came along and he was called back into service. He spent a total of 27 years in the Air Force before retiring as a colonel. Along the way, he flew F-80 fighters, C-54 transports and other military aircraft.

In 1970, Dolliver and his wife, Ann, and daughter, Sarah, were among the very first residents of Pueblo West.

Not every military pilot loves the job of flying, but Dolliver clearly loved his years in the air. With a little prompting, he’ll confess that when he flew the “What’s Cookin’ Doc?” over Pueblo that day, he kept the bomber at 500 feet or lower all the way to Harrington, Kansas.

“I had to pull up to get over a guy on a tractor,” he laughed, getting red in the face. “The poor guy had to dive off. We went over farms and the prop wash would knock chickens into the air.” It should be remembered that the Army Air Corps had a cautionary slogan in those days for young pilots - “There are old pilots, and bold pilots, but there are no old and bold pilots.” It was a rule that Dolliver and others didn’t always closely follow.

But then, they were flying toward war and the real danger of being killed.

“When I look back, I did some crazy things as a pilot,” Dolliver said soberly. “But at one of our early briefings, the colonel told us to look at the man on our left and the man on our right, because one of them would not be coming home from the war.

“That hits you pretty hard. We were young and we weren’t sure we were going to live very long. So we tried to have as much fun as we could.”

Pueblo Chieftain

Sadly, Mr. Dolliver father of your CPA Vice President Sarah Dolliver passed away this August.

Editor

Coolers, Cowlings, and Calmness

Concerning Learning, by Larry Mullenax as told to Dean Jaros

After a nine year lay-off, I was going to start flying again. I was really excited about getting back into the air and especially the prospect of owning my own plane again.

After a little shopping, I found what seemed like the perfect deal: a “straight-back” Cessna 182 which would make a good float plane. Although it was a 1956 model, it was in good shape. It had been lightly used by an elderly couple from Delta CO. It seemed the equivalent of a used car advertised as “driven only to market once a week and to church on Sunday.” The A&P who maintained it appeared to be a solid guy and much of his business was keeping older light planes in top shape. I did a thorough search of the logs and the only thing remotely out of the ordinary was the installation of new oil cooler at the last annual. A little odd, but I didn’t give it much I thought. But anyhow, the problem had been corrected.

I had another small disappointment when bringing the bird home to APA. The radios began cutting in and out, but with the help of a hand-held transceiver and attentive approach and tower controllers, we arrived safely. The avionics shop fixed the radios with a minimum of hassle and at mercifully low cost.

I asked Bruce Hulley if he would be my instructor as I got back into the habit of flying. At the beginning of our very first flight, we encountered a more serious problem: at the run-up, oil pressure started to drop, so it was back to the hangar and the maintenance shop. With the cowlings off, we saw that the oil cooler had cracked!

“How can this be?” I said to the A&P. “It is practically brand new.” “Must have been defective from the factory,” he replied. “It’s under warranty, so we can install a new one at no cost.”

Hoping that this was the last of the problems, I flew the 182 as much as I could. It was great to be back in the pilot’s seat. I had somewhere around thirty hours on the bird when I decided to attend the CPA fly-in to back-country Idaho. A high-time pilot friend and I worked our way north in marginal VFR conditions, stopping at McCall for fuel. Then came still another problem! Engine would not start because the battery was dead. There were more gremlins in the plane than I had thought.

It took a day to locate a replacement battery, but then it was flying time again. Based at picturesque Johnson Creek, a strip far up a remote canyon, we had a great time reacquainting ourselves with back-country flying. One morning, the whole group, about

seven planes, decided to fly to Big Creek for breakfast. I was the last one to depart. Just at lift-off, I thought I saw a puff cloud of white smoke at the extreme of my peripheral vision. It was puzzling but did not seem serious — it was hardly visible. Two minutes later it happened again. Now I was concerned, but I did not smell anything burning nor did I sense anything else unusual. Then two things happened at once: the prop changed pitch, making a sudden “WAAH” sound, and my passenger calmly stated, “We don’t have any oil pressure!”

This was a really big jolt. I turned around, headed back toward Johnson Creek, and radioed the other planes. This was not the country for a forced landing. There was nothing but large trees, a small stream, and a winding dirt road below. Fortunately, I was able to remain calm. I had never before had such an emergency, but most of my earlier flying was in Alaska so trees, streams, and narrow dirt roads, and low altitudes were at least familiar if not reassuring. As always, experience helps.

I decided simply to follow the dirt road right back to the airstrip. Should I make a little short-cut over a low saddle? It might shorten the distance by a couple of hundred yards. No. The canyon route is easier and I am somewhat familiar with it. Less chance for mistakes. The strip came in view and we sailed over the threshold with the engine still

running. But as we taxied off the runway, we could see heat radiating off the cowling. Something was very wrong underneath.

Turning the prop by hand made a squeaking sound and the dip-stick showed no oil at all. It had been a very near thing indeed. Somehow I was not surprised at what we found with the cowl off: another cracked oil cooler.

After many telephone calls (to insurance companies, A&Ps), I decided on-site repair was not practical, so I had the plane dismantled right there at Johnson Creek. Eventually, I hauled it home on a flat-bed trailer.

While the engine was being overhauled (it also needed a new crankshaft and one connecting rod) and the airplane reassembled, I had lots of time to think about the epidemic of cracked oil coolers. I talked to many folks about what might cause that, but no one had any good suggestions. Eventually I consulted an old A&P friend in Fairbanks, Jon McIntyre. “Any sign that the cowling might be bumping the cooler?” he asked. Sure enough, there was an obvious rub spot on the corner of the cooler. “Simple,” said Jon. “Just put on a shorter oil cooler.” I did and there has been no trouble for 150 hours.

I did go back to the APA maintenance shop which had done the

“warranty” replacement of my first oil cooler. The A&P there was not impressed with my story. He claimed that lots of oil coolers make incidental contact with cowlings with no problem. I don’t know whether this is true or not, but I am inclined to believe Jon.

As I look back on this whole episode, I think I did some things right. Most important, I remained calm when the real crisis came. I remember thinking quite rationally that if the engine quits, I will put the plane on the road — the wings will tear off and the gear will rip out, but there is a chance we may survive. I was agitated — maybe even a little afraid — all the way back to the airport, but I resisted panic. I don’t know how one acquires calmness, except through the confidence built up from experience.

However, I also made some mistakes and I like to think I learned enough not to repeat them. Most obviously, I did not pay attention to repeated oil cooler failures. When I first bought the plane, I knew the oil cooler recently had been replaced. But I did not ask about this unusual event. I had talked to the A&P who had regularly serviced the plane, but I did not take the time to ask him about it. Even if I had got minimal information, such as, “it was cracked,” I might have been more attentive. When the new oil cooler showed a crack, I accepted the A&P’s

judgment that there had been a manufacturing defect. Instead, I should have seen this as possibly a continuing pattern and started a serious inquiry of my own. This is not to put the A&P down — he did not know the reason for the previous oil cooler replacement. But I could have contacted the previous mechanic to find out and I should have used this knowledge in addition to the A&P’s considered judgment. When flying airplanes, “The buck stops here,” is a good slogan. It would have been good to contact my friend Jon before the Johnson Creek failure.

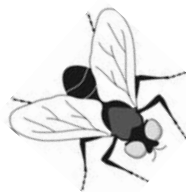
Finally, I did not pay attention to the little puffs of smoke on take-off from Johnson Creek. Probably these were caused by drops of oil hitting the hot manifold. Could I have deduced this? No, that is too much detail for the spur of the moment. But I should have accepted that something unusual and possibly dangerous was afoot. Especially in such unforgiving terrain, one should act immediately at the first hint of trouble. Instead, I waited for signs of near disaster — oil pressure loss and prop pitch change — to do anything.

Yes, we were lucky to escape, but at least I will not make the same kind of bad judgment again.

Dean



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October 2005 Factoid Questions:

Airplanes with three engines, though less common than those with one, two, or four, have appeared at various times in the history of aviation. What are the advantages, real or imagined, of the tri-motor design? What are some of the more famous examples of this type? Has there ever been a three-engined light plane?

Find the Factoid Answer on page 14



Jan McKenzie, 99s air-marking chairperson, pauses for a quick photo during the Colorado 99s Air-mark the Granby/Grand County Airport.

Colorado 99s, Helping Aviation

by Bill Hamilton

The Colorado Chapter of the International Organization of Women Pilots “The 99s” led by chairperson, Jan McKenzie, descended on the Granby/Grand County Airport once again to paint the word “GRANBY and 123.0” on some brand-new, airport tarmac in letters and numerals that took up a space 20-feet high and 193-feet long.

Easily seen from the air and from miles away, such air-markings are a long-time, national project of the 99s who drew their name from the 99 women pilots who attended their original meeting back in 1929. The

purpose of the 99s is to promote aeronautical science, with the air-marking of airports as just one of a number of projects they undertake – nation-wide.

The Colorado 99s were sponsored by The Friends of the Granby Airport, Inc. (which provided soft drinks, breakfast snacks and a sandwich lunch) and by Grand County Road and Bridge (which provided the paint.)

This all-volunteer effort drew members from local Experimental Aviation Association (EAA) Chapter

1267, the Colorado Pilots Association (CPA), the Friends of the Granby Airport, Inc. and the Aircraft Owners and Pilots Association (AOPA). Bob Doubek, of the Grand County Airport Advisory Board and wife, Carolyn, provided overnight lodging for some of the volunteers, arranged for the lunch and worked closely with Jan McKenzie in advance of the event. Penny Hamilton, the AOPA Airport Support Network Volunteer for the Granby Airport, arranged for the breakfast snacks.

In addition to Jan McKenzie, who came from Windsor; other 99s coming from Denver, Golden and Westminster to wield paint rollers were: Chapter Chairperson, Chris Bentley; Treasurer, Linda Horn; and Chapter Director, Alison Preble and Elane Comeaux.

This was the third time in nine years the Colorado 99s have come to air-mark the Granby Airport. Most of the painting was done in front of the new hangars near the former airline terminal. But, in addition, the 99s repainted and glass-beaded the numerals for runways 09 and 27.



*Taking part in the air-marking of the Granby Airport were:
 (l-row) Jan McKenzie, Dean Jaros, Carolyn Doubek, Bill Hamilton, Chris Bentley,
 Anders Hesselman, Thomas Hesselman, Linda Horn, Alison Preble, Elane Comeaux,
 Bill Turnbull, Bob Doubek, Gene Eggert, Hutton Smith, Mike Long and Bob Gorman.
 (photo by Sonny Pacheco)*

Almost Stupid: Fuel Starvation or Exhaustion *by the FAA*

Almost Stupid.... I have had the opportunity to study how human factors are always involved in an accident. I understand how these factors often link together in a disastrous chain and that accidents are actually complex events that can occur despite our best efforts. There are many things that influence our decision-making and we're all susceptible to making poor decisions. These are the consequences of being human, not the result of being stupid. However, there is one mishap that comes very close to being stupid - running out of gas.

In any given year fuel mistakes by pilot's account for roughly 10% of the accidents by general aviation. There are usually two distinct types of errors leading to either fuel starvation or fuel exhaustion. Fuel starvation occurs when there is fuel aboard the aircraft, but it does not reach the engine, either because of mistakes in switching fuel flow controls, or because of contaminants in the fuel, or blockage in the supply lines. The second type is fuel exhaustion, when all usable fuel is expended.

There is good news and bad news about running out of gas. If we crash as a result of fuel exhaustion the chances of a post-crash fire are greatly reduced. Likewise, if we are forced to ditch in the water, the empty fuel tanks can enhance the

buoyancy of the aircraft, giving us more time to get out. The bad news is that we are usually forced to land on some unprepared surface and we really tear the aircraft up.

A notable fact about fuel exhaustion accidents is that the pilot doing the flight planning is usually nearly perfect. They calculate their endurance very close to what actually occurs. A very high percentage of the accidents occurred within one mile of the destination airport. They only missed it by thaaaaat much!

One reason pilots run out of gas is that they don't know how much they have - even when it is full. The pilot of a light twin planned a flight based on 182 gallons of full fuel. He arrived at his destination only to find it below minimums. He had to make a go-around, and shortly thereafter both engines quit. He landed 1 mile short of the runway and tore-up the airplane, but survived. The investigation revealed that his endurance was equal to the 162 gallons he actually had aboard, which was the real capacity of the airplane. That information was in the handbook as well as being placarded next to the fuel filler points.

I once gave an "unsat" to a pilot taking a check ride for not knowing where a stepladder was. He was taking the ride in a CE-182 at a facility where he had received all his

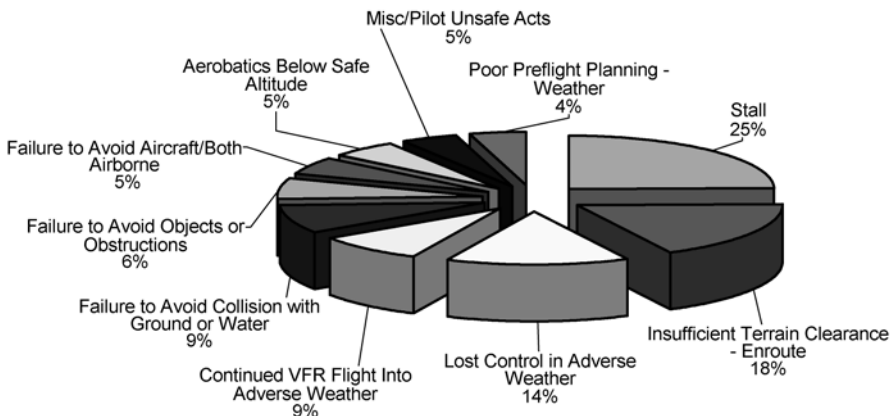
training. He staggered his way through the pre-flight, obviously using the checklist for the first time. When it came time to check the fuel he suddenly realized that he was going to have to find some way to raise himself up to the top of the wing. Despite having trained in this airplane, he thought he might find a step in the baggage compartment. Of course there wasn't one there so he concluded a stepladder would be appropriate. Unfortunately, he had no idea where to find one. I asked him where he had found it on his previous flights, but he had no answer. After I told him the ride was unsat, I suggested we find his flight instructor and have him tell us where a ladder might be.

One pilot experienced fuel starvation, even though he knew how much fuel he had aboard and precisely how much he burned an hour. What he

didn't know however was that on the typical short flights he was making, all the fuel was coming out of one tank due to a blockage in the lines. The person that regularly fueled the aircraft never mentioned it because he assumed the pilot was running avgas in one tank and auto fuel in the other, not an uncommon practice for aircraft certified for auto fuel, and only burning out of one tank. The pilot was therefore confident when he planned his endurance for a long cross country, and shocked in disbelief when the engine quit $\frac{3}{4}$ of the way to his destination. Pilots don't intend to have accidents. When they occur they are usually the consequence of human factors, not stupidity. Running out of gas however is almost stupid.

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October 2005 Factoid Answer:

The very first airplanes were of course single engine affairs. But soon designers began to ask how to lift a payload greater than one or two people. Larger craft were clearly needed and this in general required a multi-engine approach. In World War I, for example, both the British and the Germans developed twin engined bombers: the Hadley-Page O-100 and the Gotha respectively. Igor Sikorsky's four engined Il'ya Muromets was the largest World War I bomber (*See FLIGHT LINES, March 2003*). The Italians, however, fielded several squadrons of the Caproni Ca 32-36 series trimotors.



Caproni Ca 36, photo courtesy Great War web site.

match this feat. Additionally, no matter which engine failed, the pattern of thrust of those remaining was more nearly symmetrical than would be the case for twins or quads.

During the 1920s and 1930s, engines became both more powerful and more reliable. Two radials of this era could easily do the work of three, or even four, pre-1920 motors. But the concern with engine-out safety continued to fuel the three-engine designs. A well-known heavy hauler of the day was the 1925 Fokker F7 and its derivatives. Designed as an airliner, this fabric-covered monoplane was also used in several record-setting flights of the 20s. It was powered by three 200 hp engines. Interestingly, the Fokker was also available as a single — sporting a 450 hp engine.



Fort Trimoto, photo courtesy of Aerofiles.

Ford Motor Company in 1926 produced a similar tri-motor. Reportedly, Ford technicians secretly photographed and measured a Fokker (even to the point of duplicating the airfoil by wrapping soft copper tube around the wing to form a template). This all-metal copy went on to become a very well known and very rugged airliner. Like the Fokker, however, some versions of the Ford featured only one engine — of up to 700 hp — versus the three 220 hp of the original.

Why weren't the Fokker and Ford designed with four engines? In addition to the symmetry-of-thrust consideration, we should note that the standard technique for mounting engines in nacelles set into the wings was a few years in the future.

Alloys were not yet strong enough to permit modern cantilever design. Both these planes had two of their engines mounted on a complex system of struts that engaged not only the wings but the fuselage and fixed landing gear as well.

By the thirties, not only were aircraft engines better still, but the cantilever design problems had been solved. Nevertheless, the traditional tri-motor idea persisted. Three examples are the Italian Savoia Marchetti SM 79, the German Junkers Ju 52, and the Stinson Model A. The Italian military, very tradition-bound, continued to fear engine failure and the SM 79 was designed accordingly. Though something of an anachronism, the SM 79 performed well in the early days of World War II. It was particularly effective as a torpedo bomber against British shipping in the Mediterranean.



Savoia-Marchetti Sa 79, photo courtesy Aviation History On-Line Museum.

In the case of the Ju 52 and the Stinson “A” the motivation for retaining the three-engine format is not clear. The Ju 52 was extremely rugged and highly successful as a transport throughout World War II. Perhaps the German aircraft industry felt that new design efforts should be in fighters and bombers, leaving transport technology with tried and true old forms.

The Stinson A likewise seemed outdated when built. Its three engines, reliable radials, were only of 200 hp each. Clearly, a smaller number of then-available engines could have developed equivalent horsepower. Nonetheless, the “A” was successful as a ten-passenger feeder airliner, with American Airlines and Delta among the purchasers.



Stinson “A,” photo courtesy of Aerofiles.

Interestingly, both the SM 79 and the “A” were sometimes modified in the field — into two-engine variants. While old technology has a way of persisting beyond the introduction of new alternatives, these modifications truly indicated that the three-engine idea had outlived its usefulness.

Despite an occasional oddity (e.g., the Northrop C-125 and the Martin XB-51) mainstream three-engine design would not recur until the jet airliner era. In the mid-1960s, Boeing introduced the 727, a smaller craft than the earlier four engined 707. By 1970, Douglas and Lockheed, taking advantage of ever more powerful engines, marketed very large three engined “wide body” airliner, the DC-10 and the L-1011 respectively.

Engine-out capability was not a major factor in choosing three jet engines. The crucial issue was the power of then-available units. Three 707-type engines (about 14,000 lbs. thrust) were necessary to lift a plane of the 727's size. A few years later, the more powerful GE CF-6 turbojet became available. Redesigning the 727 to use only two of these engines was considered, but it was simply too expensive. However, a package of three of the GE CF-6s was just right amount of power for the newly planned wide body airliners.

Although all these airliners were very successful, they were, like their traditional tri-motor ancestors, somewhat of an intermediate design. Boeing and Airbus now have more modern aircraft that fill the same roles as the 727 on the one hand and the DC-10/Lockheed 1011 on the other. But they all have only two engines. Again, the intervening years of jet engine development have led to better, more powerful units. Two of today's jet engines can do the work of three older ones, and so once again the tri-motor has become generally obsolete.

But despite everything, there are still some viable tri-motors. Dassault of France manufactures a very successful line of small business jets, the Falcons. These come in both two and three engine versions with the latter generally being larger and of somewhat greater range. Several types of engines are used in the various models and it is not clear why appropriate two engined power could not have been arranged for all of them. But undeniably the three engine Falcons do their job — they sell very well.

Finally, there is a three engine light plane in current production, the British 18-seat Britten-Norman Trislander. It has a very unusual developmental history in that it is



Britten-Norman Trislander; photo courtesy of B-N Group, Ltd.

a stretched version of an earlier twin engine design, the 10-seat Islander. A rugged, fixed-gear design, the Islander was intended for short-haul service of both passengers and cargo. Indeed, many serve off-shore islands in Europe, Asia, and America, so the name "Islander" is really appropriate. When a market developed for a larger plane with similar performance characteristics, Britten-Norman took the path of least engineering resistance. Stretching the fuselage was relatively easy. But since the Islander already used large horizontally opposed engines, simply up-grading the power plants was not really an option. Alternatively, to put two additional engines on the wings would have required a completely different type of spar, a costly proposition indeed. A third engine mounted on the vertical tail turned out to be relatively simple and thus the Trislander was born.

While we are not likely to see many tri-motors around the local airport, they represent a design idea that has enjoyed substantial if intermittent success over the years.

Dean

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November & December 2005

Calendar of Aviation Events

Nov 5, 2005 CPA Annual Meeting, Denver, CO
Jeffco Airport, Broomfield, Info: Gloria Baltz 303/499-0833
Email:gbaltz@mindspring.com

Dec 11, 2005 CPA Holiday Dinner, Aurora, CO
DoubleTree Hotel, I-225 & Iliff, Aurora
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