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## **Golden Nuggets From the WPA Seminar**

By Scott Williams

I hope all of our members have been reading the emails sent out by Dan Chauvet and John Cowan. As is common with many organizations, there is the continual need for members willing to take on leadership roles. With us, this is necessary so the WPA can continue the incessant fight to keep the airport viable and thereby available to general aviation. At the recent WPA Officer's meeting the Board decided the need to restructure membership meetings in order to soften the workload on some of the key organizers. This means that membership meetings will continue to be held every other month, at least in the interim.

The latest meeting, which was held on March 25<sup>th</sup>, began as meetings have in the past, i.e., the Treasure's report was read, and Dan Chauvet presented the latest political action regarding the desire of the City, and possibly the County, to allow developers to build in close proximity, and potentially risky locations near the airport. As much as many of us detest getting involved in politics, the future of the airport depends on pilots, and advocates of general aviation, to engage at some level to help sustain the airport.

Following the requisite business matters was a very positive and engaging round table discussion pertaining to flight safety. In particular, the topic of discussion was focused on thoughts related to the "impossible turn", i.e., what is the best course of action if one was to lose the engine during departure. If I can walk out of a seminar with one or two golden nuggets of information that may save my life, or maybe just an expensive repair to my aircraft, I'd consider that seminar a good use of my time. When I walked out of this latest membership meeting, I felt that the Golden Goose had built a nest in my pockets and left me her extended family.

There are no short cuts to gaining experience, but in attendance at this meeting, as at all the WPA meetings, there is a wealth of experience, and our pilots are enthusiastically willing to share both their good, and not so good, experiences. In aviation, gaining experience not only takes a lot of time, but also a lot of money. The WPA is blessed to have many members with decades of flight time, and we are fortunate to have such an opportunity to be able sit down as we did this past month and share our experiences with one another so that we may live to fly another day.

So keep your eyes open for the email from John confirming the next meeting, which I anticipate to be May 27<sup>th</sup>. I also encourage all of you to invite pilots who have never attended a WPA meeting. The change in format may offer one of the most informative and potentially life-saving discussions they ever attended. See you all in May.

## **Accidents Happen. The Public Should Be Protected.**

By Dan Chauvet

A car-cam video of the Taiwan aircraft crash illustrates how an accident can happen anytime, anywhere. The loss of aircraft control put the public in danger, costing 36 lives at last count. As seen in the video, the fatalities could have been higher had it hit buildings or structures. Watsonville Pilots Association does not want this to happen near Watsonville Airport.

Causal factors of aircraft accidents are many. But for multi-engine pilots this one looks like a classic "Velocity of Minimum Control" (VMC) accident. VMC is the minimum speed needed to have directional control of a twin-engine plane with an engine out. Note: VMC conditions are defined, full takeoff power on the non-critical engine (sea level, standard conditions), the other critical engine (usually the left) wind milling, and landing gear up. If a twin has counter-rotating propellers, is the critical engine the one that's out? Fatal twin-engine airplane accidents are most frequently caused by not getting above VMC speed with an engine out. In the video it looks like what stopped the turboprop from rolling upside down was the left wing hitting the bridge pavement. The only way to regain control is to reduce power on the still running engine and point the nose lower to get more speed.

On a twin-engine airplane the airspeed indicator has two additional lines on the dial, a red one and a blue one. A red line marks the velocity of minimum control (VMC); and the blue line is best rate of climb with an engine out. Blue line is a significantly faster airspeed (about 21-24K). On twin-engine airplanes the most important speed is blue line. It's the one that will get the airplane away from trouble, the target speed. The red line indicates a speed to stay away from. The Taiwan airplane appears to have lost an engine and speed declined below red line. Recent reports (not final) indicate there may have been mishandling of an engine out.

The video and stop action picture of the aircraft in flight is the first time I have seen an actual VMC occurrence happening--from outside an airplane. I've seen a complete VMC phenomena happen from inside an airplane. Many years ago just south of Boise, Idaho, I was observing a twin-engine training flight in a four-seat plane from the backseat. The flight instructor in the right front seat explained to the student getting a multi-engine rating how a twin engine airplane must be controlled in an engine out scenario, i.e., how to maintain safe flight when an engine fails below redline. The scenario was described carefully to the trainee. The airplane was configured for a hypothetical landing- wheels and flaps fully extended. The speed was reduced to a landing approach speed and then a descent was started to an imaginary airport at an altitude 3000 feet above the desert below.

The instructor, Gene, said, "go around" and pilot added full power and began a climb. Gene cut the left engine power off. The airplane responded predictably by rolling into a bank to the left. When the pilot (Sherrill) took his hand off the throttles and grabbed the control wheel, then turned it right, I thought, "Oh, oh; this is dangerous." The airplane rolled through upside down, then went into a straight down nosedive while spinning very rapidly. Looking out the front windshield I saw spinning sagebrush ahead. My thought was, "my wife will read about us in the newspaper tomorrow." The instructor said, "Sherrill, pull the throttles all the way back." Sherrill immediately, with big hands,

snatched both throttles aft along with both propeller controls. By this time I was pulling myself forward between the seats. Gene said, "Let's push these prop controls forward and add full right rudder." I said, "Gene, that's a good idea." The airspeed increased, the spinning stopped, and the machine started to fly like an airplane. We lost 2000 feet in a few seconds, and we recovered from the dive about 1000 above ground level. Gene said to Sherrill "you fly the airplane." He said, "No." He was petrified, and his right arm hung down between the seats for the remainder of the flight, straight back to the airfield. Sherrill paid attention after that.

Since then I instructed 30 people to attain their multi-engine ratings, and 29 passed their check-rides the first time. In having the student demonstrate uncontrollability I never let the airplane roll upside down. Old Chinese proverb: "*Man (or woman) who fly upside down, have crack-up.*"

A BBC analyst (aviation expert) in describing the Taiwan video and accident said a turboprop aircraft with one engine out loses 80% of its climb performance- and that's after attaining blue-line speed. To increase speed from between redline and blue-line, loss of climb performance would be closer to 98%.

The degree of safety and risk varies according to circumstances or conditions for airports, airplanes and pilots. Airport land use planning precepts have been developed after analysis of aircraft accident data. Good airport land use planning reduces risk; bad or no land use planning increases risk. Poor land use decisions have caused many would-be incidents to become tragic fatal accidents. In California, experts have assessed risk levels. The result is laws being passed to prevent creating higher, avoidable risk situations. Don't put a stadium in a potentially dangerous area. People on the ground and in airplanes are not expendable, and should be protected.

## **Flying With The Most Dangerous Multi-engine Student**

By Dan Chauvet

A pilot at the airport came into my office and said, "Dan, my son is working on his multi-engine instructor rating up at Oakland. Can you fly with him and show him what to watch out for?" "Yes, multi-engine instruction is the most dangerous instruction there is." We scheduled a lesson for Bill.

Bill flew a twin Beech Duchess for our training session. In the oral session we extensively reviewed a number of potentially dangerous scenarios, what the multi-engine student might do, and what the instructor must do in response.

When we walked out to the airplane, little did Bill realize that he was walking out with the most dangerous multi-engine student pilot he would ever fly with (played by me!). The takeoff and initial climb-out is called the "area of decision"-what are you going to do if you lose an engine during takeoff, and initial climb. The decision on whether to reject the takeoff comes when the pilot takes his hands off the throttles to reach for the landing gear switch. As long as the gear is locked down, if an engine fails, it's no go. The first lesson element was the rejected takeoff.

So we lined up on the runway, then added takeoff power and started to roll. At about 50 knots Bill pulled the right hand mixture back to idle cut-off. But instead of bringing the throttles smoothly back, I just kept going. I didn't eliminate the differential

power. The airplane headed for the right side of runway 20 at an increasing angle. "Bill, bring the mixtures back!" He was a little slow responding to me (the student) not taking appropriate action; and the takeoff was a little overly hairy. We did it again. The flight instructor must keep his hands on the mixtures until the airplane is airborne and the pilot reaches for the gear handle.

A good formula for emergencies is MAT; "M" stands for Maintain aircraft control; "A" stands for Analyze the problem; and "T" stands for Take appropriate action. Maintaining aircraft control for most propeller driven twins requires lowering the nose to a predetermined pitch attitude, like from 10 degrees nose up to say 1 or 2 degrees up initially. Keeping the airplane going straight requires rudder input, which results in a "dead foot"; and that along with keeping the wings level, aids in Analyzing the problem (which engine failed?). Taking appropriate action includes doing the "memory items" which includes making sure the airplane is clean and feathering the prop on the bad engine (yes, the bad one).

Training element #2 was after takeoff with the wheels retracted. Again, Bill, the instructor initiated an engine failure. I went through the procedure but pulled the operating engine throttle back to idle. Bill was ready that time and said, "It's pretty quiet in here, lower the nose, maintain blue-line speed, and let's get the power back up on the good engine." I said the usual one-word expletive.

The third major element in Bill's lesson was the "uncontrollability demonstration" (also called the VMC demo); that is a check ride task. Well, you know what the most dangerous student did. He took his hands off the throttles and tried to stop the roll with the control wheel. Again, Bill was ready. He pulled the throttles back and reduced the angle of attack with the control wheel. The pilot taking the hands off the throttles means that he/she does not understand the problem, and that is disqualifying on a check ride.

Bill did well on his FAA check ride. Later he was a US Air captain. Last I heard he was a captain for Fed Ex. After flying with the most dangerous multi-engine student, maybe everything else was less challenging?

## **New Watsonville Instrument Departure**

Proposed update April 30, 2015

The FAA's Flight Procedure's Information Gateway provided a courtesy notification that the WATSONVILLE THREE departure has been updated for estimated chart date of April 30, 2015.

***NOTE: This is a prototype plate and not authorized for navigation.***

□ This proposed change is an example of what can be accomplished by dedicated pilots, tenants and safety motivated individuals working with airport management, ATC and the FAA to improve our aerodrome's operations.

[http://www.faa.gov/air\\_traffic/flight\\_info/aeronav/procedures/application/index.cfm?event=procedure.results&tab=productionPlan&nasId=WVI](http://www.faa.gov/air_traffic/flight_info/aeronav/procedures/application/index.cfm?event=procedure.results&tab=productionPlan&nasId=WVI)

~KWVI Management

## Next Membership Meeting

The next membership meeting is scheduled for May 27<sup>th</sup>. Topic of discussion has yet to be determined, so keep an eye out for John's email.

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