



CHAPTER 81

SKY WRITER

March 2011 Newsletter

Notice!

**Special EAA81 Chapter Meeting
at Pima Community College Aviation
Technology Center, Thursday Evening,
March 24, 2011, 7pm - See Map on Page 4
(There is NO Saturday meeting this month)**

2011 EAA 81 Dues Payment Status

Annual dues are \$20, now due for 2011. As of 10 Feb, 42 of 106 regular members are paid-up. Checks should be made payable to: EAA Chapter 81 and sent to Mick Myal, 2900 E. Weymouth, Tucson, AZ 85716, or brought to a chapter meeting.

EAA Chapter 81 Meeting Minutes February 19, 2011

Meeting was called to order at the Ryan Field meeting room by Secretary Bob Miller, as President Duane Boyd could not attend.

	Calendar of Events (Please send event info to the editor)
Mar-24	EAA81 Special Meeting – Tour of Pima CC Aviation Technology Center – 7PM NOTE – Thursday Evening!
Apr-16	EAA81 Meeting at Ryan Field, 10AM
May-21	EAA81 Meeting at Ryan Field, 10AM
Jun-18	EAA81 Special Meeting (TBD)
Jul-09	EAA81 Meeting at Ryan Field, 10AM (Note early date in the month)
Jul-25 to Jul-31	EAA AirVenture 2011
Aug-20	EAA81 Meeting at Ryan Field, 10AM
Sep-17	EAA81 Special Meeting (TBD)
Oct-15	EAA81 Meeting at Ryan Field, 10AM
Nov-19	EAA81 Meeting at Ryan Field, 10AM
Dec-17	EAA81 Holiday Party (date TBD)

Treasurer's Report: Mick Myal reported \$12,320.03 in the bank. Secretary's Report: The Minutes of the 1/15/11 Chapter Meeting, which were published in both the Website and the Newsletter, were accepted without being read.

Tech Counselor Chuck Valade apprised us of an accident, in which an Airbus departing from Long Island, New York, lost its rudder and crashed. Although the rudder was witnessed to oscillate to the extremes of its travel during the takeoff, experienced pilots among us note that airline pilots generally fly

with their feet on the floor, as adverse yaw and P-factor do not apply to these aircraft. The Airbus A300 has a sensitive rudder control system, which the NTSB considers may have contributed to over-control by the flight crew. A Special Airworthiness Bulletin, CE1117 was issued. Placing of blame aside, it was an opportunity to review the concept of Maneuvering Speed. This is defined as the maximum speed of an aircraft at which a full deflection of any control will not cause a structural failure. When one encounters turbulence, one slows to maneuvering speed and, if a full deflection of a control surface is made, the aircraft will stall before it will suffer a structural failure. It was pointed out that this is only certified to occur once; a second deflection could cause a failure. Maneuvering Speed is listed at full gross weight. G forces are greater on a lighter aircraft, so Maneuvering Speed goes DOWN as the aircraft gets lighter. Chuck also reminds us that many kits come with automotive fuel hose. Aromatics found in fuels can cause this hose to swell internally and cut off fuel flow. Instead, use fuel-injection hose. The 3/8" size has a blue (Viton) liner and only swells 3%.

In lieu of Old Business and New Business, those present were asked to identify themselves and their projects. A partial list of these follows:

- Joe Seibold reported the he just completed "three months of Hell" in getting the FAA to certify the new Operating Limitations on the recently repaired Czech Aeroworks Light Sport Cruiser. The recently repaired aircraft returned to service on 1/18/11.
- Bill Dieman is nearly completed building his RV6-A in Wisconsin.
- Johnny Thompson built a Mustang II which he re-engineered with retractable tricycle gear. Legend has it that it is for sale. A very old legend.
- Ken Rice's Lancair Legacy is very near ready to come out of his garage. He is wondering whether it will fit on Joe Seibold's trailer (the main gear is 2 feet wider than the trailer) and how it will get up the vertical cliff that is his driveway. He also wonders whether he should use brass or steel exhaust nuts on his IO550. Consensus was that both have been known to work well, but brass on steel studs could cause electrolytic corrosion, so steel was recommended.
- Dennis Crowley is now working on the interior of his Just Aircraft Escapade. It has a Dynon Skyview that will go into a carbon-fiber panel from Stan Foster.
- Buzz Beckenstow is working on a Waix in Oregon.
- Erik Fjerstad's RV6-A has one wing done and has to re-do a flap hinge attachment on the other (previous builder's blunder).

- Mark Cochran has been working on a Glasstar Sportsman for 6 years and the wings are now on. That makes it 85% done and only 8% to go, says Mark.
- Dan Wheeler from Oregon finished an RV6-A last year and now has begun work on an RV9 empennage.
- Ron Miles has a Zenith CH750 with a Corvair Engine.
- Dave Croupa's Zodiac 650 is also Corvair-powered. He went to the Corvair College in Livermore, CA. The empennage is complete and he is working on flaps and ailerons. He is upgrading to electric trim and has found a brand-new 1967 Marvel-Schebler carburetor. He has a hinge set but is not sure how to install it (Zodiac ailerons are traditionally part of the upper wing skin and flex without a hinge). Tech Counselor Chuck Valade has a drawing of the piano hinge and how it is installed.
- Bruce Newlan has just finished building an Express Series 90 tail dragger. This is a 200 MPH 4-seater, its IO-550G and 2-blade McCauley CS prop burning just 12 GPH. It has a straight tail, not the cruciform tail of the earlier Wheeler Express. He has over \$100K into it and it is on the market, needing only paint. Bruce is flying a Luscomb.
- Buck Clippard is flying his 1960 Beech Debonair. Upgrades include a 300 HP engine and JPI engine monitor. His 1946 Piper J3 Cub was completely restored to factory spec, complete with 85 HP Continental and wooden prop. \$28K takes it home, as Buck claims that he can barely get into it any more.
- Jeff Gilbert flies a 1960 Piper Cherokee 180.
- Roger Evenson now has 70 hours on his RV7-A, and is finishing the fiberglass.
- John McKinney from Wisconsin has an amphibian on a lake and flies a Zenith 601 for fun.
- Bob Holden has the tail kit for a Bob Baslee Fokker DR-1 triplane.
- Don Berlin is converting his Long-EZE to downdraft cooling.
- Dennis Hall is building a Hatz CB-1 biplane and describes his "Adventures in Aluminum:" First he fabricated the wooden bucks and now he has hammered out the aluminum nose bowl to fit over the non-standard O290 D2 engine he has installed. Soon, fabric!

The final event of the meeting was a presentation by Tom Hinman, the Aviation Program Manager at Pima Community College. He has 35 years in aviation, was involved in law enforcement at Pinal Airpark, and helped convert cargo planes to fire fighter tankers. He was also involved in the construction of the Boeing 747 Dreamlifter designed to move 787 parts. He is intimately familiar with NASA's Zero Gravity plane, used to train astronauts, and fondly known as

the Vomit Comet. He told us about the Aviation Program at Pima College and found himself inspired by our spirit, ingenuity, and enthusiasm. The Aviation Program is the 7th most expensive in all of Pima CC. It is at its biggest enrollment ever, current with 143 students. Located on Park Avenue near Tucson International Airport, his program also teams with a pilot program (ground school) at Cochise College. There are three primary programs: Structural Repair, Avionics, and A&P. Craftsmanship skills are taught, including composites, tooling for fiberglass, aramids, and carbon fiber. Programs run from 10 months to 2 years and produce Certificates of Training. 90-97% of graduates have jobs waiting for them. These students work hard, as they take 26-29 credits at a time (the average university credit load is under 18 per semester). For example, the A&P course runs for 1 ½ years, from August through March with classes 5 days per week and no extended breaks. Questions asked of Tom included: Can one take a partial course? (yes) and Can one audit a course (participate but not take the tests)? (yes, at \$50 per credit). Another question was Do the students moonlight (can we hire them to do work on our experimental aircraft)? (yes, but you want to ask a student near the end of his training, as those earlier may not know what they don't know). When told that Chapter 81 was considering a scholarship program for PCC Aviation Program students, Tom informed us of a Federal Grant program that is currently matching dollar for dollar funds received as stipend. He would prefer a stipend program to just a scholarship. The current matching ends in June. He is excited about a collaboration between the PCC Aviation Program and EAA Chapter 81 and says that having pancake breakfasts at Pima College "sounds easy!" The benefits to Chapter 81 would include recognition and exposure of aviation-minded younger people to the Experimental Aircraft movement. He invited us to have our next meeting at the campus, time to be arranged. The discussion ran 35 minutes and overall enthusiasm was high.

Meeting was adjourned at 1135.

Respectfully Submitted by
Secretary Bob Miller

**SPECIAL AIRWORTHINESS
INFORMATION BULLETIN
SAIB: CE-11-17**

This Special Airworthiness Information Bulletin informs you of an airworthiness concern that is relevant to all airplanes certificated under Title 14 of the Code of Federal Regulations (14 CFR) part 23, as well as those

certificated under the previous Civil Air Regulations (CAR) part 3. This information is also relevant to any special light-sport category airplanes (S-LSA), experimental light-sport airplanes (E-LSA), and experimental amateur-built airplanes.

On November 12, 2001, American Airlines Flight 587, crashed shortly after takeoff from New York's John F. Kennedy International Airport. The crash killed all 260 people aboard and 5 people on the ground. The National Transportation Safety Board (NTSB) determined "the probable cause of this accident was the in-flight separation of the vertical stabilizer as a result of the loads beyond ultimate design loads that were created by the first officer's unnecessary and excessive rudder pedal inputs." As a result of this accident and subsequent investigation, it was revealed that many pilots have a misunderstanding of what the design maneuvering velocity (speed), VA, represents. Many pilots believe that as long as the airplane is at or below this maneuvering speed, they can make any control inputs they desire without any risk of harm to the airplane. This is not true. The design maneuvering speed (VA) is the speed below which you can move a single flight control, one time, to its full deflection, for one axis of airplane rotation only (pitch, roll or yaw), in smooth air, without risk of damage to the airplane.

Recommendations The FAA wants to clarify that operators should know what the maneuvering speed is and to caution pilots on what to avoid by adhering to the information described above and contained in the regulations. We recommend the following for maneuvering at, or even below, VA:

- DO NOT apply a full deflection of a control, followed immediately by a full deflection in the opposite direction.
- DO NOT apply full multiple control inputs simultaneously; i.e., pitch, roll and yaw simultaneously, or in any combination thereof, even if you are below VA.
- Reduce VA when operating below gross weight, using the following formula:
$$VA_{NEW} = VA \sqrt{(W_{NEW}/W_{MAX-GROSS})}$$

***** Editor's note: The FAA has published an excellent "Lessons Learned" article on this accident, you can review it here: http://accidents-ll.faa.gov/ll_main.cfm?TabID=1&LLID=35&LLTypeID=2

This article includes discussion on the flight with a flight animation linked to the cockpit voice recorder showing flight control inputs, rudder deflection, and aircraft attitude. A lengthy discussion on the design and construction of the composite rudder, and of the rudder control system including comparisons among contemporary air transport aircraft. The A300's rudder is not fly-by-wire, it is a "conventional" hydraulic-assisted cable/pulley system with pilot inputs, autopilot and yaw damper inputs, and "feel" modification for deflection limits and input forces as a function of flight

conditions. It is, however, particularly sensitive, with a relatively low break-out force of 22 lb, plus under certain conditions a very low additional force of only another 10 lbs (total of 32 lbs) to get full rudder deflection. Some other aircraft rudder systems require as much as 180 lbs to reach full deflection.

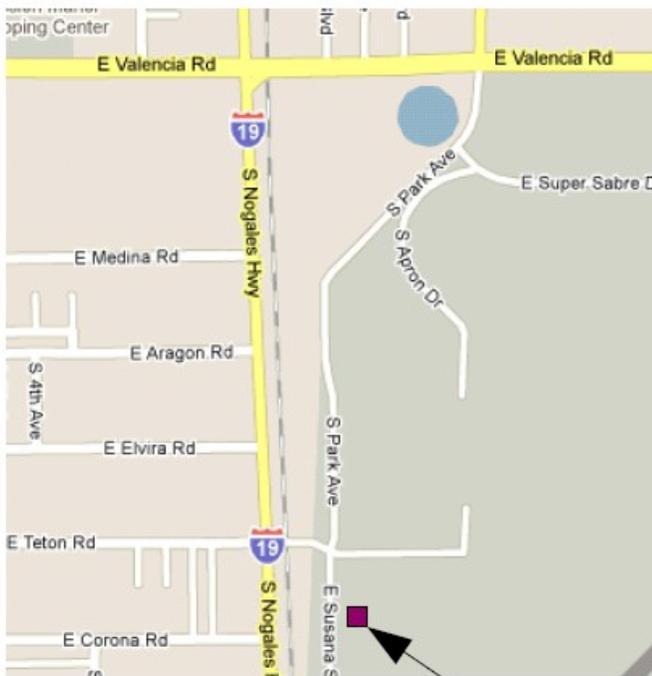


A300 Carbon Fiber Vertical Stabilizer Failure

Notice!

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at Pima Community College Aviation
Technology Center, Thursday Evening,
March 24, 2011, 7pm**

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**Pima CC Aviation Center
Take S Park from Valencia,
or E Teton from S Old Nogales Highway**

That's all for now.

Please send items of interest, classifieds,
(<mailto:newsletter81@eaa81.org>)
or to Erik's address on front page.
Erik Fjerstad, Newsletter Editor

**Check out the Chapter Website at
<http://WWW.EAA81.ORG/>**

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