

The Hammerhead

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Be sure to note that the next meeting is scheduled for April 21 @ 11:00 to be held at American Aero Services at Taunton Airport (TAN). The American Aero Services hanger is located on the Northeast corner of the airport at the end of the paved runway (runway 30). Chuck Braga will give a presentation on emergency use of the parachute.

ANNOUNCEMENT:

PLEASE TAKE NOTE THAT OUR NEXT CHAPTER MEETING WILL BE HELD AT 11:00 ON April 21st AT AMERICAN AEROSERVICES AT THE TAUNTON AIRPORT. 2001 DUES ARE DUE – PAY UP OR I'LL CUT YOU OFF THE HAMMERHEAD MAILING LIST!!

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2000 ANNUAL BANQUET

The annual banquet was held on March 3. I want to thank Mike Ganor for organizing the banquet and Craig Lesinski for being the MC. The people, food and location were great. I also want to thank Michael Goulian for providing various books for the raffle and for showing two great videos. Michael has been a long time supporter of Chapter 35 and hopefully we will see Michael compete again sometime in the future. Ed Morse, although he was not at the banquet in person, he was present in the form of his collection of Sport Aerobatic magazines which he donated to the chapter raffle. One of the highlights of the evening was to present competitor of the year award. I enjoy making this presentation as it shows the

hard work and dedication of many of our chapter members. We had a total of 25 members competing last year with Dave Watson topping the list with 20 points. Dave has worked extremely hard in 2000 flying the Sportsman category in his Decathlon and rightfully deserves the award. I believe that the ultimate compliment was given to Dave at the Farmville, VA contest when John Nagy, a fellow Sportsman competitor, said to him "I was hoping not to see you here". To top this off, Dave was also the 2000 Northeast Sportsman Aerobatic Champion. No resting on his laurels, Dave will be competing in Intermediate this year in the Yak-55 which he and Craig Lesinski co-own. New airplane, new category. I like it, Dave.

BOK TALK

We have had a change in the officers for Chapter 35. Bill Crawford has stepped down as the Vice-President. Bill will continue to be active in the Chapter and will continue to compete. I want to thank Bill for serving as our VP over the last three years. Our new VP is Steve Pennypacker. Steve, as you may know, has a Pitts S2B in partnership with Kent Christman and Peter Bocon. He is more infamous as the Contest Director of our New England Aerobatic Championship contest held at Orange, MA.

As reported in the last newsletter, several of our Chapter members attended the FAA meeting regarding the noise complaints in the area of Ayer, Groton and Westford, MA. Michael Goulian, Kent Christman, Bill McGoldrick, Ron Burns, and Neville Hogan were some of the members attending the meeting. As a follow-up, Neville Hogan drafted letters to the FAA in behalf of the pilots

attending the meeting and in behalf of Chapter 35. We need to work with the FAA to eliminate or minimize the noise complaints so we can continue to be able to practice. No follow-up response has been returned to us by the FAA as of today.

Spring time is my favorite time of the year. The snow finally goes away, the temperature gets warmer and our airplanes are finally getting finished from winter projects or annuals. I recently finished the annual on the Lazer and just started to begin practicing. One of the items I did during the winter was to install a Headsets, Inc. ANR system into my David Clark headset. In the past, I have tried a Bose and David Clark ANR headsets in the Lazer but it did not give much better performance than my standard DC headset. Over the winter, a discussion was started by Steve Pennypacker on Guenther's exploder regarding the best ANR headsets for noisy aircraft such as the Pitts Special. The Headsets, Inc. modification of a standard headset came out to be the ANR headset of choice. After flying the Lazer for several 15 minute flights with the modified headset, I am very pleased with its performance and would recommend it to anyone flying a noisy aircraft, not that the Lazer is a noisy aircraft mind you. Those of you who have seen my plane fly know that it is a very quite airplane.

We will hold a seminar in conjunction with our April Chapter meeting regarding use of the parachute. The seminar will be presented by Chuck Braga who is a local parachute master riggers and has several thousand jumps to his credit. The meeting will be held at the American Aero Services hanger as

this is where Chuck does his parachute packing deliveries. The meeting will be held at AES at Taunton Airport on April 21st at 11:00 AM. Please plan to attend as this can save your life.

Included in the newsletter is a summary of fatal aerobatic accidents written by Ed Haywood of IAC Chapter 11. Ed has reviewed the accidents in the NTSB files from 1983 to the present so there is a fair amount of data (unfortunately). I find this to be of great interest as it indicates that low-level flying is greatest cause of fatal accidents followed by unrecovered spins. These are accidents we can avoid by not doing aerobatic maneuvers close to the ground and getting proper spin training. Please take time to review this. More information can be found at http://acro.harvard.edu/IAC11/Fatal_Aerobatics_Accidents.htm.

Several Chapter members have discussed the possibility of reviving the Outlaw Classic which was last held at Plymouth, MA in December, 1993 under the careful guidance of Jim Thompson. It was held to fill in the Northeast contest void during the winter months. The contest was won by none other than our very own Jim Ward. In his victory speech, Jim insisted that it was pure piloting skills and not the JATO pack attached to his Decathlon that explained the outstanding performance. Let me know what your thoughts are to revamping the contest.

Practice and fly safe,

Hans

ORANGE CONTEST DETAILS

The New England Aerobatic Club, IAC Chapter 35, invites you to join us for the 2001 New England Aerobatic Championships on May 18-20 at Orange Municipal Airport, Orange, Massachusetts. The box will be open beginning Thursday the 17th at 0900 for anyone looking to practice and register early.

This year we have a special offer for Pitts/Eagle owners: we have arranged for Danny Adams, a factory technician from Aviat Aircraft, to join us from Afton to do thorough tech inspections on Pitts/Eagle aircraft throughout the weekend. There's no charge for this service! Yet another great reason to join us at Orange and make sure the winter gremlins are exorcised from your bipe for the start of the contest season. Danny's current plan is to be on site Thursday thru Saturday. Pilots who preregister will be given priority on the inspection schedule.

We'll still have 5 categories of power flights. The three-day format will provide the best possible opportunity for all pilots of all categories to fly a full set of flights (at least Basic, 2 Sportsman, 3 Int/Adv/Unl). This year we'll be flying the Unlimited 4-Minute Free program for interested Unlimited pilots, which can only add even more to the fun factor. If the weather gods smile on us, which they will if they know what's good for 'em, we'll add additional flights for Basic and Sportsman and shoot for 3 for everyone.

Keep in mind that hotel space is filling up particularly quickly this year. We strongly suggest that you make reservations ASAP if you haven't already. Hotel info is below.

Details follow. See you there!

Cheers,
Steve Pennypacker
Contest Director

TENTATIVE SCHEDULE

Thursday, May 17

0900 - 1900 Registration; box open for practice
1900 Food on the field, TBD

Friday, May 18

0900 - 1200 Registration; box open for practice
1200 Pilot's briefing -- Intermediate, Advanced & Unlimited
1300 - 1830 Contest flying -- Intermediate, Advanced & Unlimited
1900 Food on the field, TBD

Saturday, May 19

0700 SHARP Pilots' briefing -- all categories
0800 Registration
0830 - 1830 Contest flying -- all categories
1900 Banquet

Sunday, May 20

0900 Pilots' briefing
1000 - 1500 Contest flying -- all categories
1530 Awards ceremony

PRE-REGISTRATION

We ask everyone to pre-register, even if you're not sure you'll be at the contest. It saves valuable time at the contest and gets the flying started faster in the mornings.

For those who pre-register, we will:

Put your name at the top of the practice list.

Give you priority on hangar storage for your airplane.

For Pitts/Eagle pilots, we'll put your name at the top of the Aviat tech inspection list.

For a pre-registration kit, contact Rob Petit, Registrar Extraordinaire and bona-fide acro junkie. Contact info is listed at the bottom of this file.

(please don't ask me for the kit? I'll just point you to Rob).

Be sure to include your name, home mailing address, daytime and evening telephone numbers with your request.

AWARDS

In addition to awards for the top 3 pilots in each category, we will award:

- * Best First-Time Sportsman Award
- * Chapter Team Trophy
- * Pitts Cup (Highest placing Pitts/Eagle driver)
- * Grass Roots Achievement Award
- * New for 2001: American Champion Award (highest placing 7- or 8- series driver)
- * Most Creative Freestyle Award (but only if it wasn't meant to be)

LODGING

We Hotel space is already tight this year due to a couple of other large events in the area on the same weekend. Because of this, we've been unable to block off rooms as we have in the past. Please make your reservations ASAP. If you have a problem getting a room, let me know and we'll do what we can to help out. Our members who bring cars will provide transportation to/from all of the following hotels. The listed rates may be a bit out of date. Suggestions:

The Colonial Bed and Breakfast, in Gardner. They were great about cancellations with the rainout in 2000, so probably deserve to be rewarded (expect a 48-hour cancellation policy). About \$95 with breakfast, \$90.00 w/o. (978) 630-2500. 20 min. east of the airport on Rte. 2.

The Wachusett Village Inn, in Westminster (same town as the banquet). (978) 874-2000. WVI was sold out in Feb. (large wedding) but try if you like (cancellations?)

The Super 8 Motel in Gardner, Mass. Their cancellation policies took a turn for the worse last year so ask them about it if that's a concern to you. (978) 630-2888. Standard room rate is \$75 for 1 or 2 people.

Other area hotels to which we'll provide transport:

Executive Inn Orange, MA 978/544-8864
Quabbin Gateway Motel Orange, MA 978/544-2986

BANQUET

This year's banquet will be held Saturday evening at 7:00 p.m. at The Old Mill restaurant in Westminster, Mass. Back by popular vote, at last year's contest (and also because they haven't kicked us out yet...), the Old Mill is also near the recommended hotels.

FEES

Contest registration	
Basic	\$50
Sportsman	60
Intermediate	70
Advanced	75
Unlimited	80
Hangar, per night	\$15 subject to change

Food on the field (Thu-Fri): We ask only for a reasonable contribution

Saturday evening banquet: \$35 per person

WHAT TO BRING

For the aircraft:

Airframe and engine logs; airworthiness certificate; registration certificate; operating limitations; current weight and balance data, in-pack chute (<120 days) & pack card; proof of insurance (\$1 million minimum).

Please remember that 2-way radio communication is now required to compete in IAC contests.

For the pilot:

Pilot and medical certificates; IAC membership card; FAI license (Unlimited competitors only); 7 copies each of free style forms A, B and C, signed and dated (in '00) by a current IAC judge; ca\$h.

Photocopies of documents are permissible for IAC contest registration; however, FAA requirements may differ.

GETTING TO THE AIRPORT

By air: NY Sectional, Gardner (GDM)
VORTAC 292 degree radial, 10.3NM.
42.34.04N, 72.17.28W. VOR and NDB approaches.

By car: U.S. Route 2 to exit 16 (U.S. Route 202, Amherst-Belchertown exit). Travel 1 mile N and turn left onto Partridgeville Rd. Travel ½ mile W; find the airport on your left.

Arrival: Runways 14-32: 4998'x150'; 1-19: 5000'x150'. Field elevation 555'MSL. Orange Unicom 122.8. Runway 1-19 will be closed during practice and contest flying except with 15 minutes prior arrangement by phone or radio. Fly right traffic for runway 32, left traffic for runway 14. **Caution:** The aerobatic box is southwest and parallel to runway 32 and immediately over runways 1-19. Do not overfly the airport.

CONTACT INFORMATION:

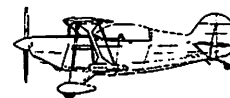
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Orange Municipal Airport manager
Len Bedaw (978) 544-8189.



Fatal Aerobatics Accidents

A compilation of NTSB reports

INTRODUCTION

This is a compilation of fatal accident narratives for several common types of aerobatic aircraft. All narratives were taken from the NTSB accident database, and cover the period from 1983 to April 2001. The aircraft models covered are the Pitts S-1/S-2 series, the Decathlon/Citabria family, aerobatic low wing monoplanes, the Christen Eagle, and other Aerobatic Biplanes.

At the end of each narrative, I have annotated a primary cause of the accident. The determination of cause is entirely my own opinion, based solely on the information in the narrative. If you desire to research any accident further, you can find detailed narratives on many of these accidents in the NTSB database.

For each make/model of aircraft, a table of data summarizes the causes of the accidents. Significant results are highlighted in yellow. Below the tables, I have drawn some conclusions based on the cumulative data and narratives.

You are invited and encouraged to read the accident narratives, examine the data, and form your own conclusions. If you have any questions about my methodology or reasoning, please see the NOTES at the bottom of this page.

TABLES OF FATAL ACCIDENT CAUSES BY TYPE

All Aircraft types

cause	Total for all aircraft types		
	Number	Percentage	Rank
Low-level Acro	88	39%	1
Low flying	19	8%	4
Unrecovered Spin	33	14%	2
Structural failure	18	8%	5
Mid-air collision	9	4%	6
Flight into IMC	8	3%	7
Other	27	12%	3
Unknown	27	12%	3
Total:	229	100%	-

Pitts S-1 and S-2

cause	Pitts S-1 and S-2 series	
	Number	Percentage
Low-level Acro	22	37%
Low flying	1	2%
Unrecovered Spin	19	32%
Structural failure	3	5%
Mid-air collision	3	5%
Flight into IMC	2	4%
Other	3	5%
Unknown	6	10%
Total:	59	100%

Decathlon and Citabria

cause	Decathlon		Citabria		Total	
	number	%	number	%	number	%
Low-level acro	18	33%	19	39%	37	36%
Low flying	6	11%	10	20%	16	15%
Unrecovered spin	4	7%	0	0%	4	4%
Structural failure	9	16%	3	6%	12	12%
mid-air collision	1	2%	0	0%	1	1%
Flight into IMC	1	2%	4	9%	5	5%
Other	9	16%	10	20%	19	18%
Unknown	7	13%	3	6%	10	9%
Total:	55	100%	49	100%	104	100%

Low wing monoplanes, Christen Eagles, and Aerobatic Biplanes

cause	Low-wing mono		Christen Eagle		Other biplane		total	
	#	%	#	%	#	%	#	%
Low-level acro	11	50%	9	36%	9	47%	29	44%
Low flying	0	0%	1	4%	1	5%	2	3%
Unrecovered spin	1	5%	6	24%	3	16%	10	15%
Structural failure	3	15%	0	0%	0	0%	3	4%
Mid-air collision	3	15%	1	4%	1	5%	5	8%
Flight into IMC	0	0%	0	0%	1	5%	1	1%
Other	1	5%	2	8%	2	11%	5	8%
Unknown	3	15%	6	24%	2	11%	11	17%
Total:	22	100%	25	100%	19	100%	66	100%

CONCLUSIONS

Aerobatics at low altitude is the single biggest killer of aerobatic pilots. Nearly 40% of all the fatal accidents included in this data were caused by pilots attempting aerobatic maneuvers without sufficient altitude to complete the maneuver or recover from an accidental stall/spin during the maneuver.

In trainers, these maneuvers were generally attempted by inexperienced aerobatic pilots, and they often had an audience. The most common failed maneuvers were rolls and steep pull-ups on takeoff. The pilot often had a previous history of performing impromptu low-altitude maneuvers.

Not all low-altitude accidents were caused by inexperienced pilots showing off. In advanced aircraft (Pitts, Eagles, and low-wing monoplanes), the pilot was often an experienced aerobatic pilot with a low-altitude waiver who was preparing for or performing in an airshow. The most common failed maneuvers were hammerheads, loops, and snap rolls.

In trainers, low flying (without aerobatics) was also a significant cause of accidents. In these accidents, the pilot either made a low, high speed pass and clipped an obstacle or the ground, or tried to turn and stalled. Low flying accidents and low altitude aerobatics accidents together account for nearly half of all aerobatics fatalities.

Unrecovered spins were the second most common cause of fatal accidents. However, the Pitts and Eagle series account for virtually all of these accidents. Unrecovered spins are uncommon in all the other aircraft models. Since the average Pitts pilot probably has more aerobatic experience than the average Decathlon pilot, the difference is all the more pronounced. Clearly the Pitts and Eagle models are much more challenging to prevent and recover from spins, and pilots flying those aircraft should receive extensive spin training in that aircraft.

Structural failure was a less common cause of accidents than might be expected. The vast majority of wing failures due to G overstress were in the Decathlon, Citabria, and low wing monoplanes, with the Decathlon 8GCBC having the most failures. Fatal structural failures were extremely rare in all the biplane models.

Many of the accidents of unknown cause were probably either low-altitude aerobatics or unrecovered spins. In most of those accidents, the aircraft was found to have impacted the ground at a high rate of speed in a known aerobatics practice area, with no evidence of mechanical failure or pilot distress.

NOTES

The aircraft types were selected to cover the most common aerobatic aircraft used by IAC members in the US today. Other less common aerobatic aircraft were not included, in the interest of brevity. The sample size is sufficient to give a clear picture of overall trends with regard to accident causes. Aerobatics accidents with non-aerobatic aircraft are not included, for obvious reasons.

Only fatal accidents are included in this compilation. Non-fatal accidents are just too numerous and too varied in cause. Ground loops alone would account for several hundred destroyed aircraft ... but no deaths.

Only the primary cause was identified for each accident. Contributing causes were not tabulated, despite the fact that in many cases two or more causes were both present. In those cases, I did my best to determine which error was unrecoverable and led most directly to the accident. For instance, if a pilot executed a spin at low altitude and didn't recover because he was too low, I determined the cause to be low-altitude aerobatics, despite the fact that an unrecovered spin was also present.

Low-altitude aerobatics is defined by two criteria: aerobatics under the FAA minimum of 1500 feet, or initiating a maneuver under the minimum altitude recommended by the manufacturer or other experts on that type aircraft. Low flying is defined as flight in close proximity to the ground, usually within 200 feet.

Structural failure includes failure of the airframe due to overstress, and also failure of flight control components. Engine failure, fire, electrical/instruments/avionics failure, or other systems emergencies are categorized as Other causes.

The narratives are organized by aircraft make and model, and are listed in the order they appear on the NTSB database, with most recent at the bottom of the list.

I would encourage everyone to access the NTSB database and review details on all accidents pertaining to the model of aircraft they currently fly. If you want to discuss these accidents further, post to the Acro e-mail exploder or go to the message board I have set up to talk about this data. The purpose of this compilation is to replace anecdotal evidence with facts, to puncture a few myths and to reinforce conventional wisdom when it is supported by the facts. As we all know, a thinking pilot is a safe one, so the goal of these web pages is to get people to think for themselves.

Happy and Safe Flying,

Ed Haywood
IAC Chapter 11

ORANGE CONTEST MAY 17-20

THE BOK TALK

BANQUET SUMMARY

All this and so much more....
inside.

PIPER YAK CESSNA PITTS BEECH
GA AND AEROBATIC AIRCRAFT

INSPECTIONS AND REPAIRS

QUALITY WORK, QUICKLY DONE
AND FAIRLY PRICED



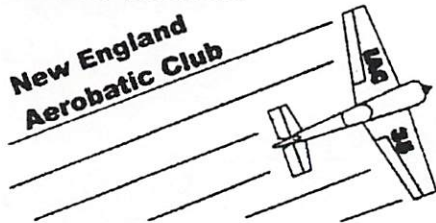
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