



Newsletter

Volume 33, Number 6, February 2003

Terrain-Resistant Airplanes: Reducing Controlled Flight Into Terrain Accidents

Speaker: Don Bateman, Chief Flight Safety Engineer, Honeywell



Controlled Flight Into Terrain (CFIT) is one of the leading causes of fatalities in commercial aviation: At least 43 large transports worldwide were involved in CFIT accidents in the last ten years, most commonly during

the approach and landing phase. CFIT is defined as the unintentional flight of an airworthy aircraft into the ground or some other obstacle. The aircraft is under control by the flight crew, which is usually unaware of the pending contact.

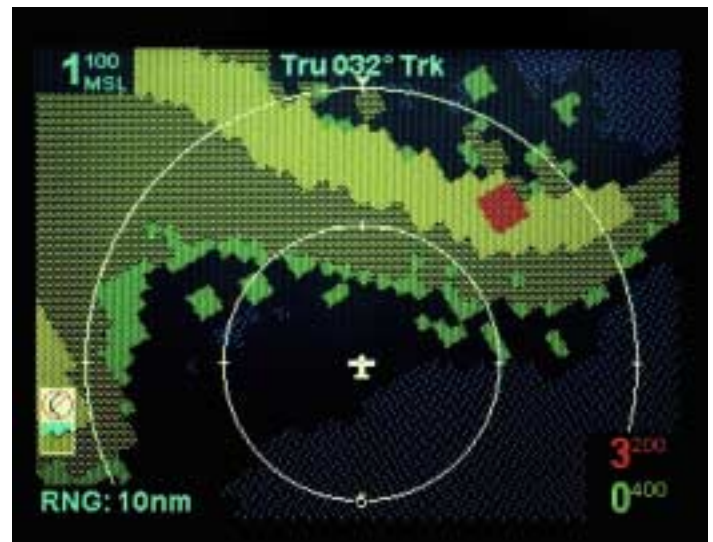
The industry is trying to reduce CFIT encounters through education, training, and technology. On the technology front,



Honeywell pioneered the first Terrain Awareness and Warning System over 30 years ago. That system has evolved into today's Enhanced

Ground Proximity Warning System (EGPWS), the subject of this month's talk. EGPWS is installed in over 15,500 aircraft worldwide and is credited with 20 documented aircraft saves.

This talk will cover how EGPWS works, some real incidents where the system has been helpful, and where some work is still needed.



Don Bateman is the Chief Engineer for Flight Safety Systems at Honeywell in Redmond, WA. He has been working for nearly 40 years on technological aids to help pilots reduce the risk of CFIT and is the inventor of the original GPWS. He has earned 30 U.S. patents and 80 foreign patents in the areas of terrain-avoidance systems and other advanced avionics. He recently won the Flight Safety Foundation / Aviation Week & Space Technology Distinguished Service Award for his work on EGPWS.

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Joint AIAA/SFTE Lecture - Dinner Meeting

Date: **Tuesday, February 25, 2003**
Place: **Old Spaghetti Factory, 2801 Elliott Avenue, Seattle**
Time: 6:00 PM Social, No-Host Bar
6:30 PM Dinner
7:00 PM Program – **Terrain Resistant Airplanes**

*Please make reservations by 2/21.
A reservation is a commitment to pay!*

Dinner Reservations: Call anytime (425) 342-0988 or send email to vera.a.martinovich@boeing.com or paul.l.clement@boeing.com

Entrée choices are spaghetti w/ cheese or chicken cacciatore. Please specify choice when reserving.

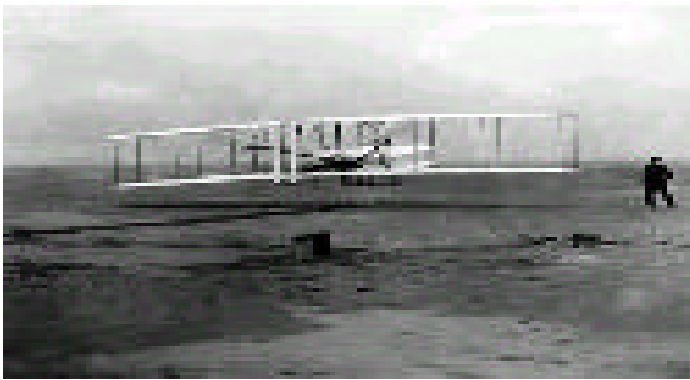
Dinner Price: **\$15** AIAA/SFTE Members and Guests
\$18 Non-Members
\$5 Students (new lower price!)

Program Only: **\$5** (Free for persons 17 and under)

12 hp From 180 Pounds, The Story Of The Wrights Flyer's Engine

By Charles E Taylor

*In commemoration of the approaching 100th anniversary of flight, the following is the **sixth and final** installment of an article written by Charles E Taylor, as told to Robert S Ball when Orville Wright died January 30th, 1948. Charles E Taylor then became the only surviving member of the three who built the first airplane. Charlie Taylor was the only employee and intimate associate of Wilbur and Orville Wright throughout the critical years. Without precedent or fanfare, Taylor built the engines for the Wright's first planes to their designs. The article below was written in 1948 while Taylor was living in retirement in California, it was first published in Collier's, December 25th, 1948 and was reprinted in the Airline Pilot, December 1978. Charles E Taylor died January 30th, 1956.*



The plane was then forgotten until Orville got this request to show it in Massachusetts. It came from Lester D. Gardner (then publisher of Aviation magazine, later an officer in the Army Air Service in World War I and founder of the Institute of the Aeronautical Sciences), who was in charge of the aeronautical part of the dedication program of the new buildings of MIT at Cambridge. Orville was reluctant at first, but consented when Gardner and Roy convinced him how interesting it would be to the public.

Orville and I continued to see each other frequently after 1919. He used to bring odd jobs to me at the plant where I was working, and I would visit him at his laboratory. Then in 1928 I moved to California and didn't see him again until 1937.

I got work in a machine shop in Los Angeles, and then the big Depression hit us. I was out of work but had saved some money. I invested this in 336 lots in a new land development on the edge of the Salton Sea, down in the southern California desert. I built a little house and sat around waiting for something to happen. Nothing did.

In 1937 Henry Ford hired me to help restore the original Wright home and shop when he moved them to his Greenfield Village museum at Dearborn, Mich. They were installed near the first Ford workshop and Thomas Edison's original laboratory.

I helped Fred Black, the director of the project, track down the original machinery and furniture, and then I built a replica of the first Wright engine. The home and shop were dedicated in April 1938 with all the big names in aviation on hand.

I met Orville often during this period, both in Dayton and in Dearborn. When I left the village to return to California in 1941, I called on him in Dayton. That was the last time I saw him, but he wrote me regularly about his work and I kept him posted on what I did. He wrote every December 17. It was sort of a personal anniversary with us, and it was also a Christmas message.

I always wanted to go back into the laboratory with Orville. He hinted at it in some of his letters-saying he needed expert workmanship on his projects-but he never came right out and asked me. I had intended to go back East this past summer if my old pump would let me, but Orville died on January 30.

In the last note I got from him, shortly before he died, he wrote: "I hope you are well and enjoying life: but that's hard to imagine when you haven't much work to do." It was signed, "Orv."

He knew me pretty well.

PNW Aerospace Timeline

Dinner Meeting and Lecture

Fourth Tuesday every month

Topic: Terrain Avoidance Systems
Date/Time: 25th, February 2003, Social at 6:00 p.m
Location: Old Spaghetti Factory, 2801 Elliott Avenue, Seattle

Retired Members Brunch

Third Saturday every other month

Speaker: TBD
Date/Time: March 15th, 9:00AM
Location: Museum of Flight, Seattle
Contact: Tom Holgate 253-838-0333

Puget Sound Engineering Awards Banquet

Speaker: Patricia Galloway, P.E. President Elect
American Society of Civil Engineers
Date/Time: 21st, February 2003, Social at 6:00 p.m
Location: The College Club, 505 Madison Street, Seattle, WA

Deadline: Reservations required by Feb 10
Price: \$40 - choice of smoked king salmon or prime rib
Contact: dgoehler@earthlink.net or mail reservations to; PSEC Banquet, PO Box 40007 Bellevue, WA 98051-4007. Please include: Your Name, Organization, Telephone Number, Meal Selection, Guest Names and Meal Selections

PNW AIAA Annual Billiards @ Jillian's

The PNW AIAA Young Professionals invites you to a game of pool at Jillian's Billiard Club, Wednesday, March 5, 2003, from 6 to 9 pm. Take this opportunity to meet others within the aerospace community in a relaxed atmosphere. A casual meal of salad, hamburger, and chips & salsa along with bottomless soda will be served. Door prizes will be awarded so don't miss the fun. Bring a friend! RSVP by February 25, 2003, to Emmanuel Domingo at (206) 227-7819 or edomingo@in-tec.com.
Students: \$6, Professionals: \$10

Chairman's Corner

Recent geopolitical events have adversely affected the aerospace industry around the world, but particularly here in the United States. We are all aware of the plight of the airline industry, as well as that of the airframe manufacturers. The current downturn has resulted in a significant upheaval in the industry. Which may lead one to ask the question, are we going to use this upheaval as an opportunity to make meaningful changes within the aerospace sector? Or, are we to see a further consolidation or erosion of the industry resulting in a reduction in the aerospace workforce in the United States.

The answer to these questions could have a profound influence on the future of the industry and the American economy as a whole. The next generation of Engineers and Technicians are watching with interest the decisions being made today, the result of which will heavily influence their decisions to enter this industry. Without the enthusiasm shown by past generations for aerospace, the United States could indeed enter a vicious cycle, as more and more young people stay away from aerospace due to the uncertain nature of the profession. There are preliminary indications that this is indeed happening, as many aerospace engineering departments at our leading universities are seen a reduction

in student enrollment, and some departments are consolidating with their mechanical counterparts.

As we approach the 100 anniversary of the Wright brother's momentous event, we need to remember that the genius showed by these pioneers, were nurtured by a nation fascinated with the prospect of flight. As we make changes to our industry to adapt to the current economic realities, let's not lose sight of what made this industry great, and the pioneers who when out of on the limb, when all others said they would surely fall off.

I would also like to remind members that it is of paramount importance that all of you, who are able to receive the newsletter by e-mail should sign up for distribution of the newsletter by that means, doing so will result in a significant cost savings to our section.

We also have a few vacant Director positions on the Council; please contact me if you are interested in volunteering. (eric.s.lester@boeing.com, or tel: 425-294-6979).

Eric S. Lester
Chairman

Section website: http://www.geocities.com/aiaa_2000/index.html
 National website: <http://www.aiaa.org>

Please submit newsletter materials to
 Karl D'Ambrosio by the 20th of
 February for the March Newsletter.

Outstanding Section Awards	Membership Award
1972-1973	1997-1998
1977-1978	Young Member
1978-1979	Activity Awards
1991-1992	1990-1991
1993-1994	1991-1992
1994-1995	1994-1995
1994-1995	1995-1996
Section Special Event Awards	Career Enhancement Award
1976-1977	1997-1998
1977-1987	Newsletter Awards
1978-1979	1994-1995
1982-1983	1995-1996
1987-1988	1996-1997

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Address Corrections

Send to: **AIAA**
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Now make corrections on-line at
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Section Officers and Directors

Position	Name	Address (Mail stop if Boeing*)	Phone	Email address
Council				
Chairman	Eric Lester	OR-RA	425-294-6979	eric.s.lester@boeing.com
Vice-Chairman	Vera Martinovich	OR-RK	425-342-0988	vera.a.martinovich@boeing.com
Secretary	Joe Dortwegt	OR-RM	425-342-5089	joseph.dortwegt@boeing.com
Treasurer	Paul Moorehead	67-65	425-237-5176	paul.j.moorehead@boeing.com
Advisory Council	William Gjertson	8J-72	253-773-3090	william.g.gjertson@boeing.com
Advisory Council	Billy Roeseler	OR-HH	425-294-2810	wm.g.roeseler@boeing.com
Advisory Council	Doug Ball	67-LH	425 234-1016	douglas.n.ball@boeing.com
Advisory Council	Scott Eberhardt	P.O. Box 352400, UW, Seattle, WA 98195	206-543-6508	scott@aa.washington.edu
Past Chairman	Laura Kistler	OR-HH	425-294-2553	laura.s.kistler@boeing.com
Elected, non-voting				
Vice-Chairman-Elect	Ben Sarao	1432 242 nd Place SE, Sammamish, WA. 98075	206-768-7166	bmsarao@hotmail.com
Secretary-Elect	Open			
Treasurer-Elect	Open			
Appointed				
Webmaster	Jane Kuta	43-19	206-662-2820	jane.f.kuta@boeing.com
Honors & Awards	Scott Eberhardt	P.O. Box 352400, UW, Seattle, WA 98195	206-543-6508	scott@aa.washington.edu
Retired Members	Tom Holgate	2704 SW 314th, Federal Way, WA 98023-7842	253-838-0333	holgatz@aol.com
Newsletter	Karl D'Ambrosio	5026 18 th Avenue NE, Seattle, WA 98105	253-395-3710	karld@emfcowa.com
Nominations	Laura Kistler	OR-HH	206-544-0507	laura.s.kistler@boeing.com
PSEC Liaison	Eric Lester	OR-RA	425-294-6979	eric.s.lester@boeing.com
PSEC Liaison	Vera Martinovich	OR-RK	425-342-0988	vera.a.martinovich@boeing.com
Evolution Of Flight	Ben Sarao	1432 242 nd Place SE, Sammamish, WA. 98075	206-768-7166	bmsarao@hotmail.com
Museum of Flight Liaison	Open			
Pre-College Outreach	Rich Hepler	4C-40	206-544-0507	richard.a.hepler@boeing.com
Public Policy	Karl D'Ambrosio	5026 18 th Avenue NE, Seattle, WA 98105	253-395-3710	karld@emfcowa.com
Young Professionals	Emmanuel Domingo	PO Box 591, Bothell, WA 98041	425-487-2888	edomingo@in-tec.com

* All Boeing people have the address of P.O. Box 3707, Mail Code xx-xx, Seattle, WA 98124-2207



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Please Come Join Us in Celebrating National Engineer's Week
at the
PUGET SOUND ENGINEERING AWARDS BANQUET



The College Club
505 Madison St., Seattle, WA
February 21, 2003
6:00 PM
Social Hour & Dinner

Indian Style Smoked King Salmon Filet
Or
Baked Prime Rib Choice Cut
\$40.00

Keynote Speaker – Patricia Galloway, P.E.
President-Elect American Society of Civil Engineers

Awards Ceremony

e-mail dgoehler@earthlink.net or
Mail Reservations to;
PSEC Banquet
PO Box 40007
Bellevue, WA 98051-4007

PLEASE INCLUDE:
Your Name, Organization, Telephone Number, Meal Selection
Guest Names and Meal Selections

2003 Engineer's Banquet

The Puget Sound Engineering Council, an organization of more than thirty Engineering and Technical Associations located in the Seattle metropolitan area, representing more than 15,000 engineers, cordially invites you to attend the annual Engineer's Banquet/Ball at the College Club on Friday, February 21, 2003 at 6:00 pm.

This is a gala event to celebrate the Engineering Profession. Engineers who have achieved notable accomplishments in five different areas of our profession will be honored with Engineer-of-the-Year awards.

Patricia Galloway, President-Elect of the American Society of Civil Engineers, will present the keynote address, an illustration of the fundamental importance of the profession of engineering in raising the quality of life in society, a review of changing conditions and challenges the profession faces, and her ideas for meeting these challenges.

The planned schedule is:

Social	6:00 – 7:00
Dinner	7:00 – 8:45
Program	8:45 – 9:30
Awards	9:30 – 11:00

Mode of dress is optional, black tie or business attire. Menu choices are Indian Style Smoked King Salmon Fillet or Baked Prime Rib Choice Cut. Reserve your tickets today by e-mailing to dgoehler@earthlink.net or mailing reservation information to:

PSEC Banquet
PO Box 40007
Bellevue, WA 98051-4007

Tickets are \$40.00 per person and reservations must be made by February 10th.

Registration Form

**Puget Sound Engineering Council
Engineer's Banquet February 21, 2003**

Name	Organization	Telephone	Menu Choice	
			Salmon	Prime Rib
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Total Number _____ **@ \$40.00 =** _____ **Make Checks payable to PSEC**