



MDPA News

Mount Diablo Pilots Association
Buchanan Field, Concord, California

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January Crab Feed Dinner and Meeting

MDPA Safety Forum, Saturday, 4 January 2014 Auto Pilot Use

John Potter

There were 35 for a wonderful breakfast put on by a gaggle of very energetic cooks.

After the safety presentation, one of the more seasoned EAA/MDPA members came up to me and offered that it was not proper to talk about airline accident scenarios since all of the pilots present were small aircraft pilots. I tried to be cordial in my response, but it was hard to not say anything negative and it did force me to address the relevance of what was presented.

It could be that I had dwelled on the accidents of airliners too much as it relates to the pilot being taken out of the "control loop" by the designers. The ultimate issue, given that pilots are horrible monitors of all things automatic, is that they get bored! Digital systems do not get bored, but they can do unanticipated things if not programmed correctly or if the design is wrong for an unusual situation.

So there, I rest my case. Talking about "Heavy Iron" problems with autopilots relate to small aircraft with autopilots. Even small aircraft pilots can get bored, as I have, on autopilot. Instrument approaches can really go wrong if the pilot always depend on the autopilot and never takes the controls himself. Equally, pilots on VFR flights can really end up in trouble if they do not pay attention while on autopilot, for example, fuel tank imbalances.



The safety presentation featured a video of a 1985 China Airline Flight 006 from Taipei to Los Angeles that had an upset due to the loss of an engine and the captain not coming off the autopilot until deep into severe imbalances.

<http://www.youtube.com/watch?v=fFd8YCpqpFA>



The aircraft spiraled from 41,000' in IMC until breaking out at 9,500' and the captain was then able to see the horizon and reroute to San Francisco for a safe landing with a severely damaged aircraft.

We discussed the automation problems attributed to the recent Asiana Airlines crash at SFO and the disappearing over the Atlantic of Air France Flight 447 out of Brazil to Paris.

Finally, based on an 9/7/13 AVWEB article by Embry-Riddle instructor Jack Panosian, which was sent out with the meeting notice as "homework," the question was posed as to whether taking the pilot out of the "control loop" and making him a "monitor" as the designers are wont to do is a smart thing or not. Formerly it was "automation" to advise the pilot that action was needed and that kept the pilot in the loop.

<http://www.avweb.com/search/index.html?zkDo=search&query=panosian>

Clearly, we as general aviation pilots need to stay-in-the-loop and not just trust but verify the autopilot.

We concluded the meeting by discussing the recently published NTSB 2014 list of safety alerts for General Aviation.

AVWEB Flash Volume 21, Number 1a

<http://www.avweb.com/eletter/archives/101/2715-full.html?ET=avweb:e2715:427440a:&st=email#221199>

NTSB Chair Deborah Hersman. "At a time when many people are putting together their list of resolutions for the coming year, these five Safety Alerts remind pilots, mechanics and passengers of the basic safety precautions to add to their checklists to ensure a safe flight for

all on board.” A Safety Alert is a brief information sheet that pinpoints a particular safety hazard and offers practical remedies to address the issue.

The five safety alerts issued were:

1. Check Your **Restraints** (restraints degrade with age and can fail—installing shoulder harnesses can prevent occupants from impacting the interior during a crash);
2. Engine Power Loss Due to **Carburetor Icing** (pilots need to learn to detect and deal with carburetor icing appropriately);
3. “Armed” for Safety: Emergency Locator Transmitters (**ELTs** that are turned off or secured to structure don’t function and have cost lives due to delays in finding downed airplanes);
4. All Secure, All Clear (forgotten and **unsecured items** have jammed control system components and caused crashes);
5. Proper Use of **Fiber Self-Locking Nuts** (trying to save money by reusing a fiber self-locking nut has caused degraded insets to fail to hold the nut on the bolt-leading to a crash, notably the P-51 that went into the stands at the Reno Air Races, killing spectators).

MDPA Flyout to Auburn, Saturday, 4 January 2014







MDPA Meeting and Dinner, 17 January 2014









The Mount Diablo Pilots Association is a non-profit organization based at Buchanan Field in Concord, California (KCCR)

The purposes of the Mount Diablo Pilots' Association are

- To promote good public relations between general aviation enthusiasts and the local community
- To encourage participation in fly-ins and other aviation activities
- To promote safety and educational activities for pilots
- To provide mutual resources of information on flying for members
- To furnish information and support to the Contra Costa Airport Advisory Committee and other governmental agencies concerned with aviation
- To be a proxy on aviation matters of community concern for its membership

The MDPA clubhouse is located at 200 Sally Ride Drive in Concord, California,
do not send mail to the clubhouse address use the USPS address instead:

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