

General Aviation related issues

EASA Workshop

"Weather information provided to
pilots"

SUMMARY

- GA weather issues
- Pilots interpretation of meteorology data
- Commonalities and differences between GA, Hel, BA and CA
- Pilot performances definition → criteria for training and licensing
- Instruction oriented proposal

GA weather issues

- Weather related accidents analysis
 - LOC
 - CFIT
 - In flight damages (hail, strike, turbulences)
- Common roots: Interactive effect of:
 - Bad representation of the weather situation
 - Insufficient meteorology background for correlating meteorological data with flight hazards
 - Poor flight preparation
 - Poor capacity to detect precursors of accident scenarios
 - Poor capacity to escape from an accident scenario
 - Web information looks attractive but confusing. Does not replace a skilled “Weather Officer” briefing.
- Instructors lack methods, tools, criteria

GA weather issues

- Aggravating factor (Area Of Change) are:
 - Less instructors having military experience
 - Reduced access to weather officers for briefing
- Difficult representation of the weather situation
 - Perception of prevision uncertainties through available data
 - Consideration in flight of tendencies
 - Precursors detection of accident requires awareness of accidents scenarios (not done)
 - Capacity to escape from an accident scenario requires more training

Commonalities GA - Hel - BA - CA

- Pilots basic knowhow is acquired ab-initio → few possibilities to improve afterwards
- VMC Helicopter operations are GA similar
 - same pilot's deficiencies
 - same accident categories.
 - Only military training provides more competencies.
- Modern Business Aircrafts are, like airliners well protected. Confidence level is high, but limits are not well perceived (ground icing, IAS icing, hail effect).
- No real motivation for MTO instruction upgrades

Pilots' Instruction priorities

First priority is to provide pilots with culture making him able to correlate retrieved data with what will be observed in flight.

Weather briefing in an Air Force squadron created a cultural cross fertilization between pilots and weather professionals

1. Capacity to correlate retrieved data with “in flight observations”
2. Awareness of uncertainties and prediction errors, ability to evaluate tendencies in flight and decide accordingly.
3. Weather Hazard evaluation with consideration of aircrafts, their mission and crew training.

Videos presenting typical weather briefing can make PPL instructors able to replay military briefings, then pilots will do.

Videos presenting weather accident scenarios can complete the picture.
(ref: FAA excellent IFR video in icing conditions)

Such briefings are available in USA for civilians

http://www.srh.noaa.gov/epz/?n=pilots_guide

A similar effort is desirable in Europe, possibly completed with pedagogic support manuals

Conclusion

- GA initial training builds the basis for pilots life
- Weather briefings have to be adapted to accidents' scenarios → (Events Sequences Diagrams shall be published)
- More videos presenting flights conditions have to be created
- Why not launching a preliminary study of automatic briefings ?
- Instructors' guides urgently needed