Runway Safety –

The Business Aviation Perspective

- To summarize the dimensions of the business aviation operating community.
- To provide some data on runway accidents by business aircraft.
- To present conclusions of an analysis of runway accidents.

Overview of Business Aviation

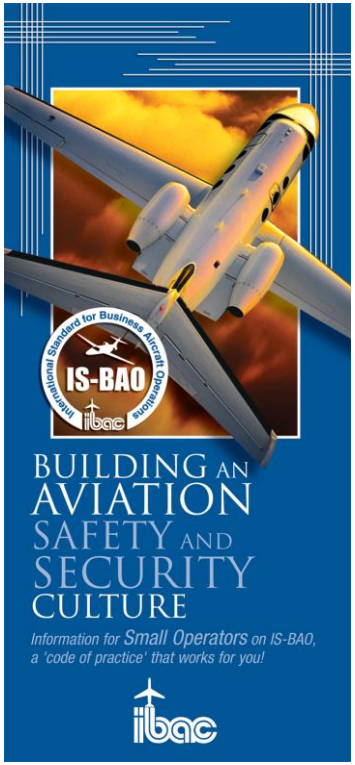
- Use of aircraft for business purposes.
- One of the fastest growing sectors of aviation.
- Over 30,000 turbine aircraft worldwide.
- Over 17,000 operators

Safety Statistics Challenge

- **Business aviation includes commercial air taxi, and non-commercial corporate, fractional and owner-operated.**
- **ICAO does not collect data for general aviation.**
- **Result ➡ IBAC develops safety database that provides for safety analysis.**

Business Aviation Safety Statistics

Business Aviation Safety Brief is published annually. Statistics include basic accident data from Robert Breiling and Assoc and rate data developed by IBAC.



Global data over 5 years

Business Aircraft Accident Rates by Operator Type (Extrapolated) *(per 100,000 departures)* Jet Aircraft					
Operator Type	**Departures (5 yrs)**	**Total Accidents**	**Fatal Accidents**	**Total Accident Rate**	**Fatal Accident Rate**
Commercial (Air Taxi)	**5,798,593**	**91**	**23**	**1.57**	**0.40**
Corporate	**10,548,098**	**45**	**5**	**0.43**	**0.05**
Owner-Operated	**3,727,628**	**18**	**4**	**1.66**	**0.15**
***All Business Aircraft**	**19,074,320**	**179**	**39**	**0.94**	**0.20**

Business Aviation Safety Strategy

Safety data is reviewed annually in accordance with the BA Safety Strategy. Runway safety identified as needing further analysis.

Location of Accidents

Accident Summary by Phase of Flight									
	Taxi	T/O	Climb	Cruise	Desc't	Man'v	App	Land	Total
Business Jets	15 8.9%	20 11.8%	10 5.9%	8 4.7%	6 3.6%	2 1.2%	15 8.9%	93 55.0%	169 100%
Turbo Props	17 4.4%	29 7.6%	39 10.2%	38 9.3%	8 2.1%	20 5.0%	69 16.1%	164 42.7%	384 100%

Landing Analysis

A more detailed analysis of accident data was reviewed for a three year period to determine most frequent causal factors.

Conclusions - General

Applicable to Jet and Turbo Prop aircraft

- **Poor speed control and unstable approaches most prevalent cause.**
- **Incorrect or lack of reported runway conditions were a frequent factor.**
- **Crosswind and gusts were also frequent.**
- **Poor runway conditions and snow clearance frequent factors.**

Conclusions – by type of operation

Jets 

Overall fewer accidents but high percentage in the landing phase (55%).

Turbo Prop 

Gear malfunction a frequent cause.

Significant number of single pilot operations.

Conclusions

- Runway length was seldom a factor.
- Fatigue did not appear as an issue.
- Pilot experience was not an evident problem,
- Low ceilings and visibility not prevalent.
- Day/night not a factor.

Mitigation

- Adherence to operations manual and aircraft flight manual.
- SMS and FDA will help.
- Improved runway condition reporting.
- Accelerate implementation of vertical guidance approaches.

Conclusion

I am happy to answer any questions...