March 2016 Safety Meeting

AC 61 98C

- **Subject:** Currency Requirements and Guidance for the **Flight Review** and Instrument Proficiency Check
- **Date**: **11/20/15**
- **AC** No: **61-98C**
- Initiated by: **AFS-800**
- Supercedes: **AC No: 61-98B**
- **Date**: **04/30/12**

AC 61-98 11/2016

- This version of AC 61-98 addresses changes in technology and the operational environment, and their impact on recurrent training and proficiency checks.
- Edits to this AC, since the original version, have expanded the scope to include recent flight experience and instrument proficiency checks.
  - NOTE: The FAA no longer uses the term Biennial Flight Review

Why the Changes?

- Keeps the FAA Busy? No !
- Because of changes in
  - Operating environment
  - Technology
  - Improved Accident data analysis methods
  - Recognition of human factors role
  - Alignment with SMS and new ACS

Why the Changes

- **Success of the accident reduction efforts of the Commercial Aviation Safety Team (CAST)**
  - **(reduced the fatality risk for commercial aviation in the United States by 83 percent from 1998 to 2008).**
- **CAST uses a, statistical data driven, approach to—**
  - **Analyze safety data/information, sorted, organized**
  - **Identify hazards and underlying contributing factors,**
  - **Develop specific safety enhancements to address risk,**
  - **Implement cost effective safety enhancements,**
  - **Track implementation and continuously monitor the effectiveness of the safety enhancements**
  - **Use knowledge gained to continually improve the aviation system.**

Why the Changes

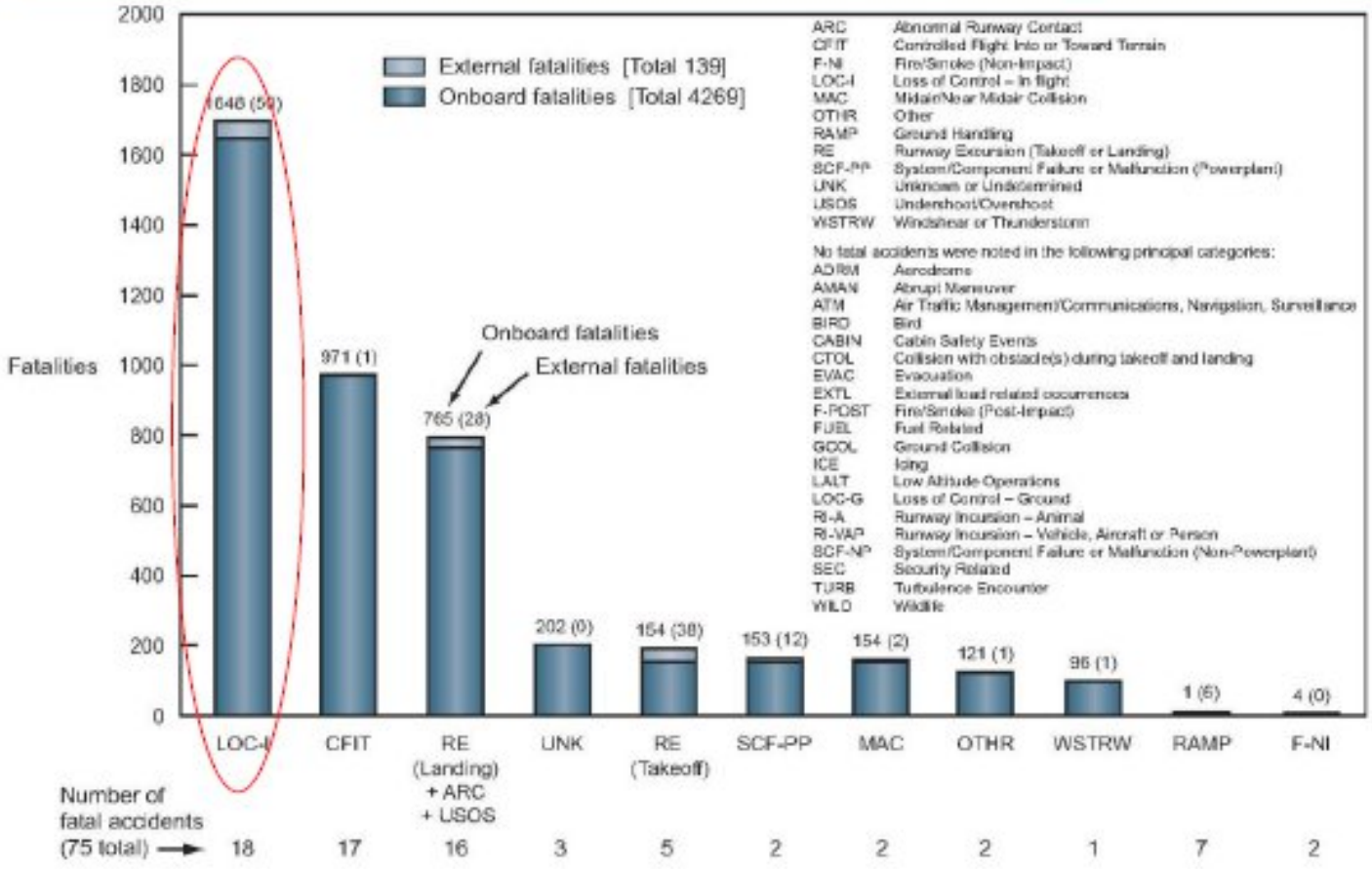
- **Because of success of the CAST methodology, The General Aviation Joint Steering Committee (GAJSC) adopted a model similar to CAST.**
- **GAJSC is the primary vehicle for government-industry cooperation, and coordination on GA accident reduction.**
- **GAJSC Data analysis findings since 2011 revealed common pilot errors and provided recommendations and mitigation strategies to reduce GA fatalities**

GA JSC Participants

- Government
  - FAA, NASA, NTSB, NWS
- Industry/Operational Community
  - GAMA, EAA, NBAA, NATA, AOPA, SAFE, NAFI, FSF, UAA, Pegasus, SAMA, Insurance, Academia…

Fatalities by CAST/ICAO Common Taxonomy Team (CICTT) Aviation Occurrence Categories

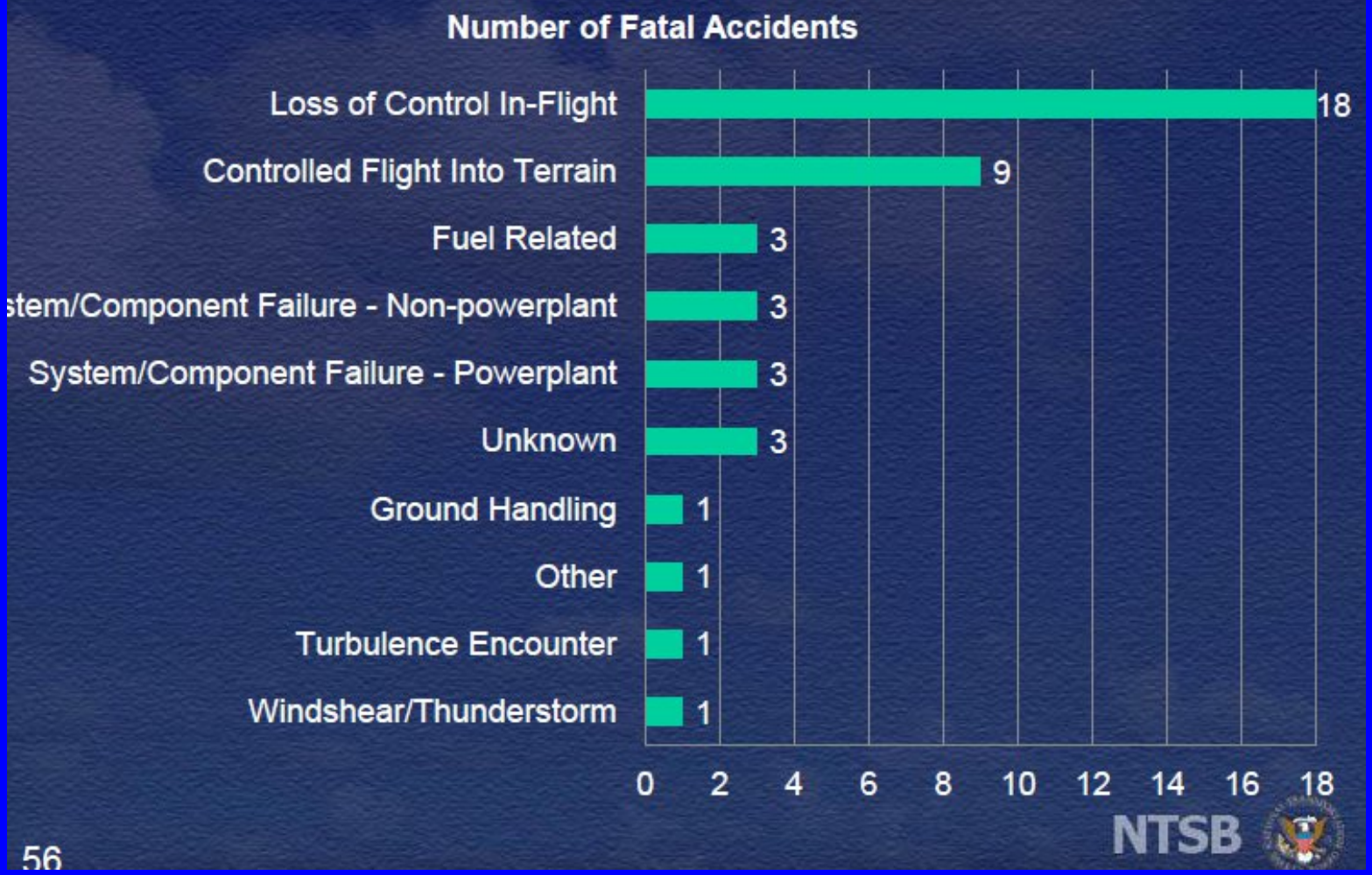
Fatal Accidents – Worldwide Commercial Jet Fleet – 2003 Through 2012



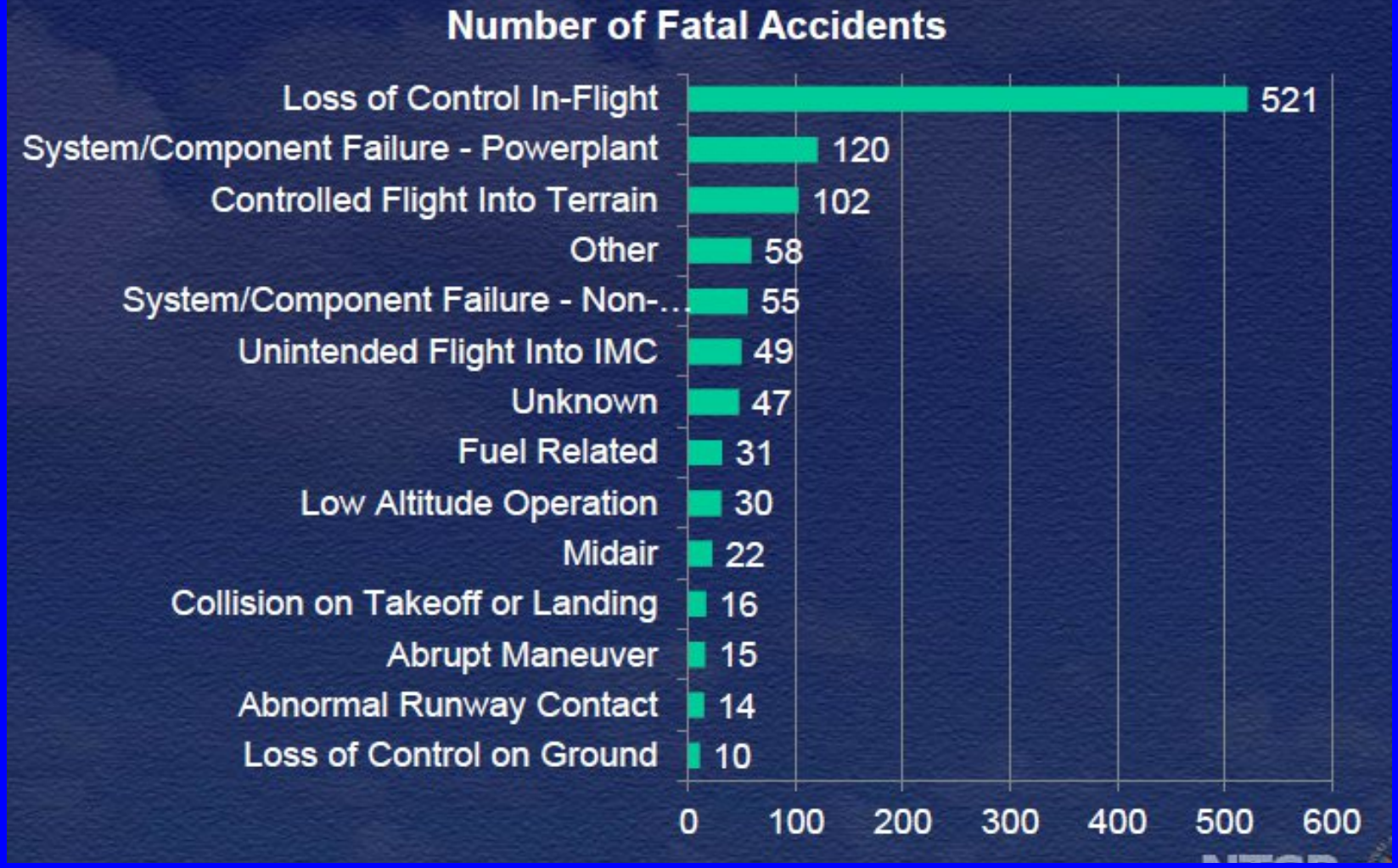
Note: Principal categories as assigned by CAST.

For a complete description of CICTT Aviation Occurrence Categories, go to: http://www.intlaviationstandards.org/

Business Flying, 2008-2013



Personal Flying, 2008-2013



Primary category of accidents

Personal flying	– LOC
Instructional flying	– LOC
Business flying	– LOC
Airline flying	– LOC

Conclusion

- **LOC defined: refers to aircraft accidents that result from situations in which a pilot should have maintained (or should have regained) aircraft control, but failed to do so.**

- **The GAJSC cites LOC as one of the six most critical and common causes of GA accidents. Further,**

- **LOC was the number one cause of GA fatalities from 2001 through 2010.**

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Linkage of Flight Review to LOC

- LOC usually occurs when a pilots "aircraft control skill" proficiency deteriorates
- The pilot cannot perform at the proficiency level he or attained for his initial certification
- Conditions exceeding degraded skill limitations can occur at any time
- One area where GAJSC data has shown GA pilots experience a higher risk of LOC is while maneuvering in an airport traffic pattern

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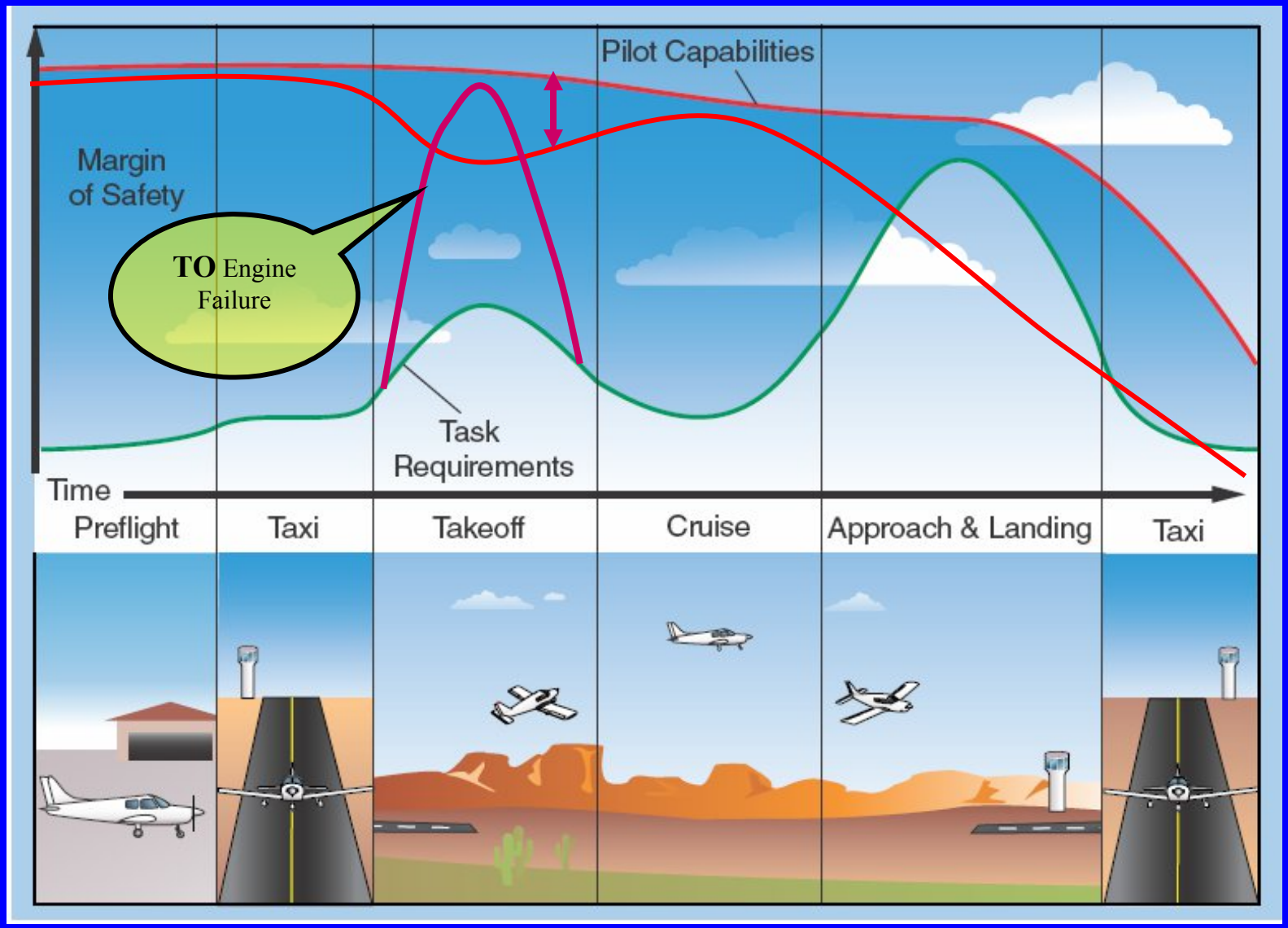
Emphasis on Traffic Pattern LOC

- **Flight Reviews should emphasize evaluating a pilot's ADM, departure skills, and ability to establish and maintain a stabilized approach and landing, while applying effective crosswind techniques to avoid the risk of LOC when maneuvering in an airport traffic pattern.**
- **Utilize scenario-based situations emphasizing ADM, departures, and establishing and maintaining a stabilized approach to a landing to reduce the risk of LOC in an airport traffic pattern.**

Ac 61 98C Guidance

- **Flight Review: Three areas of LOC risk in the traffic pattern should be considered:**
  - **The risk of a departure stall;**
  - **The risk of LOC if attempting to return to the field after an engine failure on takeoff;**
  - **The third area is the risk of LOC on the base to final turn.**


Pilot Capabilities
Margin of Safety
TO Engine Failure
Task Requirements
Time
Preflight
Taxi
Takeoff
Cruise
Approach & Landing
Taxi

Ac 61 98C -Departure Stall

- Evaluate and emphasize the consequences of climbing out at speeds less or greater than what is required for a particular type of takeoff.
- CFIs should emphasize that a departure at best-angle-of-climb speed (VX) is used for obstacle clearance and short field takeoff procedures
- Engine Failure at Vx requires immediate response
- CFIs should also teach pilots to be prepared to reject a take-off in the event performance does not meet predetermined go-no criteria


N2057Y

CONDITIONS:

Flaps 10°
Full Throttle Prior to Brake Release
Paved, level, dry runway
Zero Wind
Lift Off: 51 KIAS
Speed at 50 Ft: 56 KIAS

Press Alt In Feet	0°C		10°C		20°C		30°C		40°C	
	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst	Grnd Roll Ft	Total Ft To Clear 50 Ft Obst
S. L.	860	1465	925	1575	995	1690	1070	1810	1150	1945
1000	940	1600	1010	1720	1090	1850	1170	1990	1260	2135
2000	1025	1755	1110	1890	1195	2035	1285	2190	1380	2355
3000	1125	1925	1215	2080	1310	2240	1410	2420	1515	2605
4000	1235	2120	1335	2295	1440	2480	1550	2685	1660	2880
5000	1355	2345	1465	2545	1585	2755	1705	2975	1825	3205

Ac 61 98C Engine Failure

- CFI's should emphasize that:
- Pilots of single-engine aircraft depart in coordinated flight at the best-rate-of-climb speed (VY) for normal takeoffs
- Maintain this speed to the altitude necessary for a safe return to the airport in the event of an emergency.
- Train pilots of single-engine airplanes not to return to the field after an engine failure unless altitude and best glide requirements permit. Hmmmm?

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Emphasis on Stabilized Approaches

- **The GAJSC recommends that pilots and CFIs emphasize stabilized approach and landing proficiency and conduct stabilized approaches as a standard practice**

- ***CAST also identified unstabilized approaches as a significant factor in many Commercial LOC accidents*, ex: SFO 777, BHM A320**

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Criteria for Stabilized Approaches

- Under most circumstances, the airplane must be stabilized by 1,000 feet above airport elevation in instrument meteorological conditions (IMC) and
- by 500 feet above airport elevation during straight-in approaches in visual meteorological conditions (VMC).
- Pilots must monitor at least seven major elements that define a stabilized approach in GA airplane.
- The FAA considers an approach to touchdown stabilized when the airplane meets all of the following criteria, with only minor deviations.

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7 Criteria for Stabilized Approaches

(1) Glide Path. The airplane is on the correct flight path. Typically, the glide path is 3 degrees to the runway touchdown zone (TDZ) (obstructions permitting).

(2) Heading. The airplane is tracking the extended centerline to the runway with only minor heading/pitch changes necessary to correct for wind or turbulence to maintain alignment. Bank angle should not exceed 15 degrees on final.

(3) Airspeed. The airplane maintains a constant airspeed within +10 knots indicate air speed (KIAS)/-5 KIAS of the recommended landing speed specified in the pilot's operating handbook (POH) or on approved placards/markings.

(4) Configuration. The airplane is in the correct landing configuration with flaps as required, landing gear extended, and the airplane is in trim.

Ac 61 98C
Criteria for Stabilized Approaches

(5) Rate of Descent. Descent rate is a constant and no greater than 500 feet per minute (fpm). If a descent greater than 500 fpm is required due to approach considerations, it must be reduced prior to 300 feet above ground level (AGL) and well before the landing flare and touchdown phase.

(6) Power Setting. Power setting is appropriate for the airplane configuration and is not below the minimum power for approach as defined by the POH.

(7) Checklists/Briefings. All briefings and checklists (except the landing checklist) completed prior to initiating the approach.

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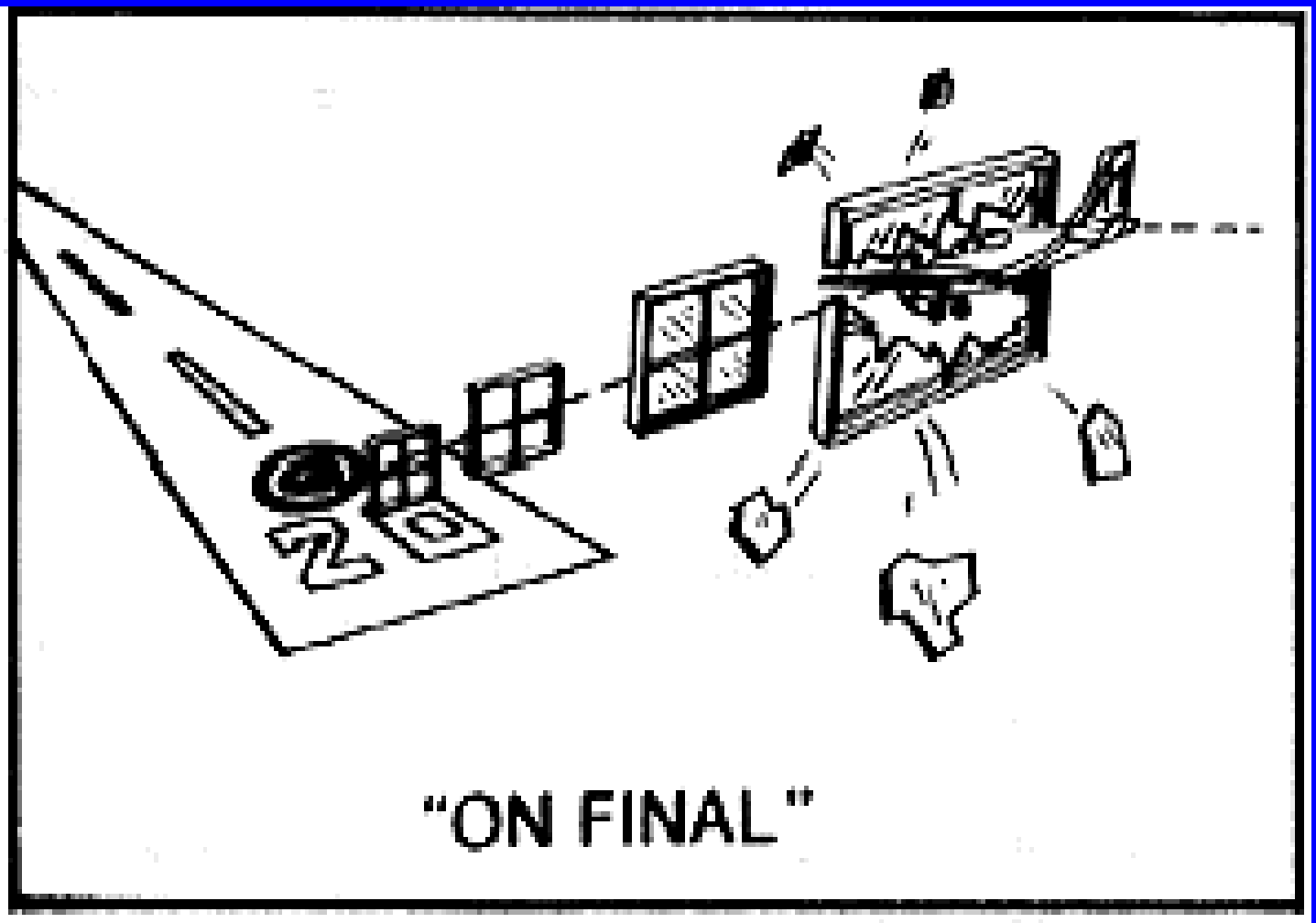
Land/Go Around Decision

- **NOTE: For a typical GA piston airplane in a traffic pattern, if the approach becomes unstabilized below 300 feet AGL,**
- **The pilot should initiate an immediate go-around**
- **Easy Rule: 5 times your ground speed equals 3 degree glide slope!**

Final Approach Window



RAFA Flight Review

- **AR 415 Flight Review Frequency -Annually in most complex aircraft to be qualified**
- **RAFA Flight Review will implement 61 98C requirements**
- **RAFA Recent Experience requirements greater than CFR 61**
  - **Annual written each AC Model**
  - **60 and 90 day currency**
  - **More Restrictive Weather Minimums**
  - **Annual CFI Reviews**

Quarterly Safety Meetings