Experimental Aircraft Accident Analysis

The attached data was taken from the E.A.A. Sport Aviation Magazine, Vol. 66, No 3 – March 2017 edition.

This data represents the leading causes and factors involving experimental aircraft and is intended for use concerning flight safety awareness and accident prevention for pilots of fixed wing ultralight & experimental airplanes.

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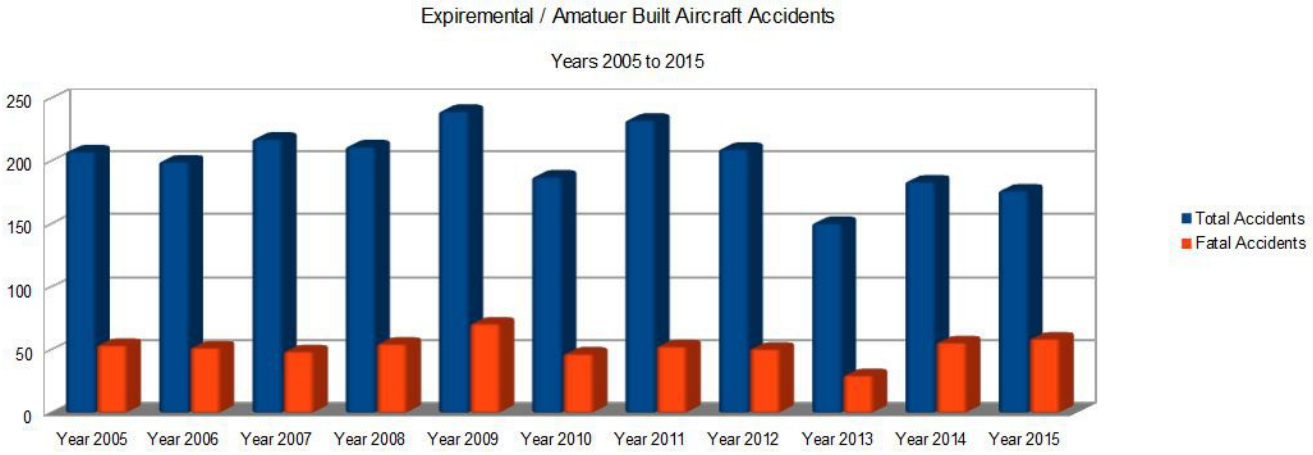
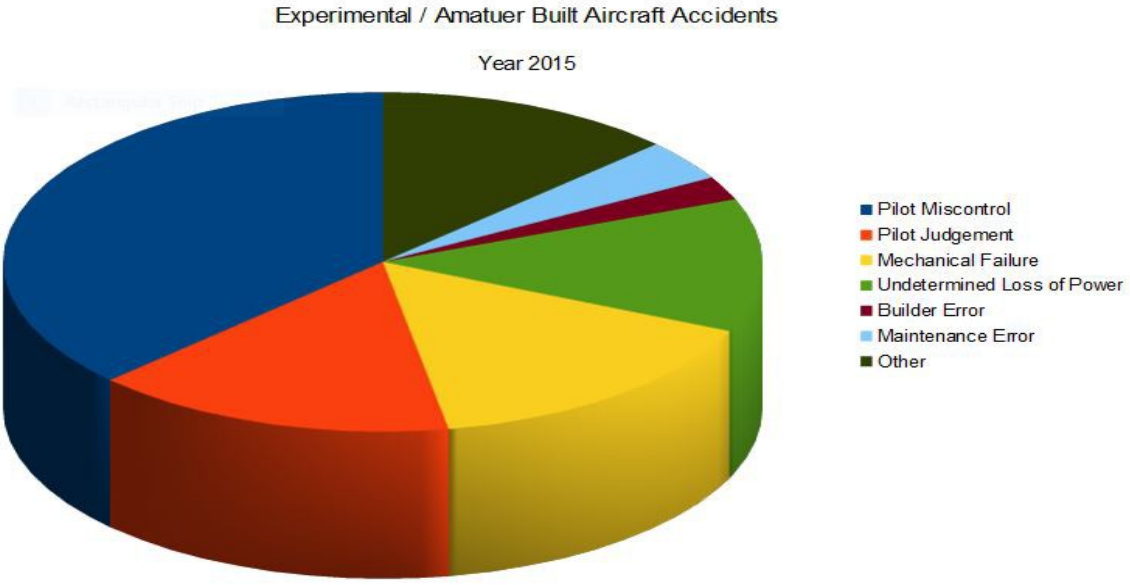
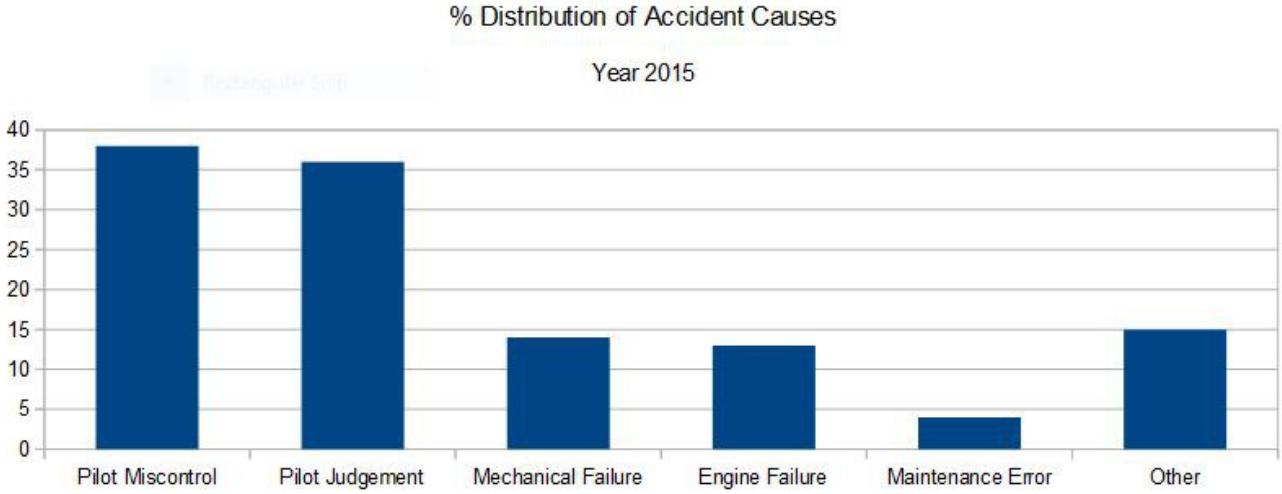
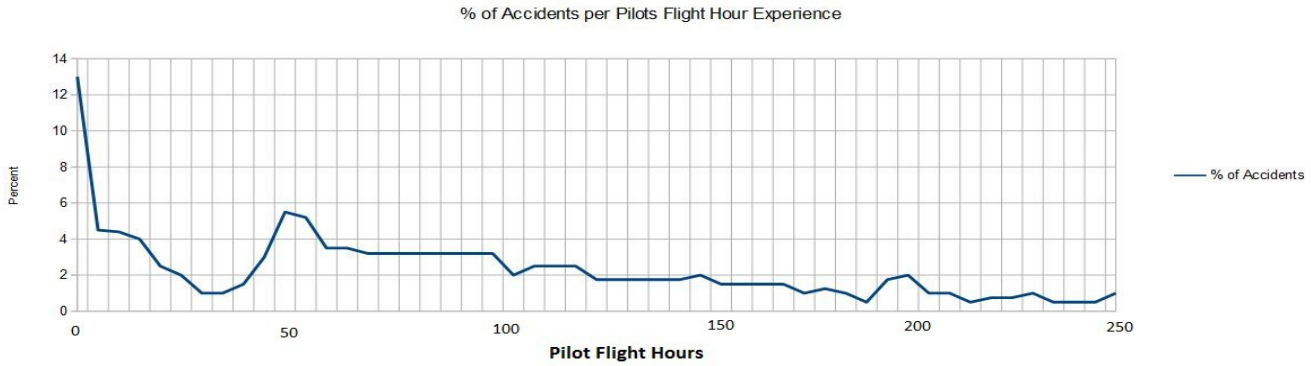
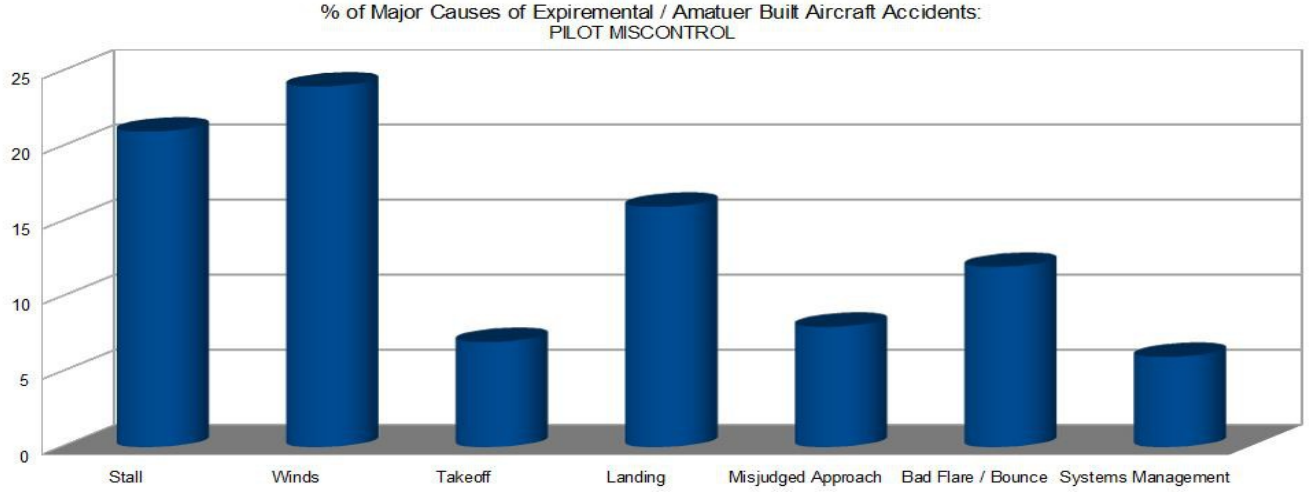
Experimental Aircraft Accident Analysis Report:

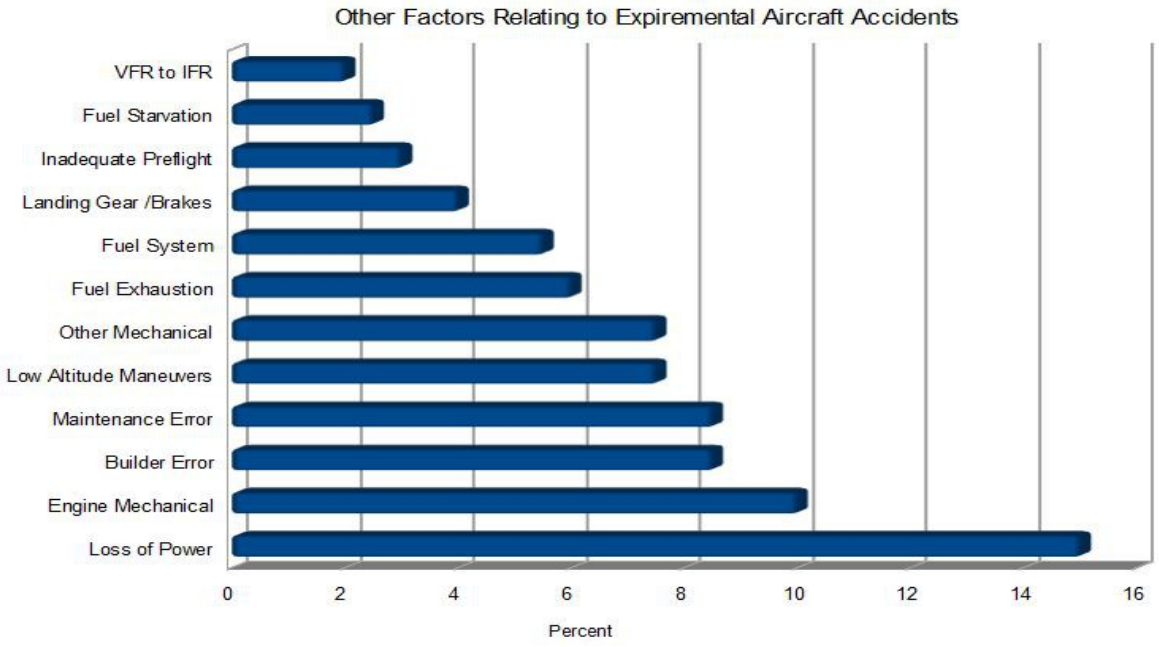







% of Accidents per Pilots Flight Hour Experience
Percent
14
12
10
8
6
4
2
0
0
50
100
150
200
250
Pilot Flight Hours
% of Accidents


% of Major Causes of Expiremental / Amatuer Built Aircraft Accidents:
PILOT MISCONTROL
25
20
15
10
5
0
Stall
Winds
Takeoff
Landing
Misjudged Approach
Bad Flare / Bounce
Systems Management


Other Factors Relating to Expiremental Aircraft Accidents
VFR to IFR
Fuel Starvation
Inadequate Preflight
Landing Gear /Brakes
Fuel System
Fuel Exhaustion
Other Mechanical
Low Altitude Maneuvers
Maintenance Error
Builder Error
Engine Mechanical
Loss of Power
0
2
4
6
8
10
12
14
16
Percent

Conclusion:

It should be noted that 25% of experimental accidents result in the fatality of the pilot.

The first ten hours after soloing is critical. Probabilities of an accidents will drop significantly from 12% to 4.5% after the first ten hours of flight time. The accident rate increases after 50 hours flight time to 100 hours, then drops afterwards.

Pilot miscontrol & misjudgment is the major factor, 54 % of experimental aircraft accidents. Of the pilot miscontrol accidents, the two main factors are primarily caused by stalls – 21% & wind conditions – 22% . Undetermined loss of power is another significant factor of accidents.

Engine mechanical, fuel systems, and other mechanical failures cause approximately 26 % of accidents.