

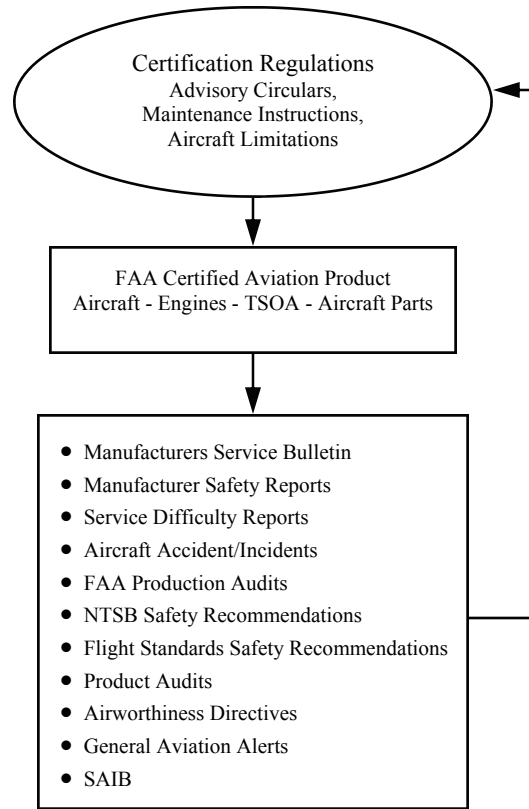
**Aircraft Certification Service
Continuously Improving Aviation Safety**

Personal Limitations

Just as aircraft have limitations, so do we as operators and maintainers. These limits are a little harder to recognize since they are always changing and are not identified in a operator's manual. How proficient are we in operating a particular aircraft or performing a particular maneuver? Did you know that most Alaska aviation accidents occur during the landing phase of flight? Many factors include crosswind or strong winds, flaring too high, loss of directional control after touchdown, unsuitable landing field (too short, too muddy, too rocky, too much snow). Being landing proficient takes practice. Practice picking out suitable landing fields. Practice normal crosswind and short field landings at locations that provide enough room to make mistakes before going to your favorite fishing spot.



Practice normal crosswind and short field landings at locations that provide enough room to make mistakes.



**Anchorage Aircraft
Certification Office**

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**What Are Your
Flight
Limitations?**



Federal Aviation Administration

Anchorage Aircraft Certification Office

What Are Your Flight Limitations?

The Federal Aviation Administration (FAA) Aircraft Certification Service's number one priority is continued operational safety.



The FAA's Aircraft Certification Service utilizes a data-driven system safety approach in monitoring aircraft operations to continually improve the safety of the aircraft we fly. This approach starts with the development of safety-based aircraft design regulations. Aircraft manufacturers and modifiers use these regulations to design safe aircraft. The FAA proactively monitors aircraft operational safety through service difficulty reports, aircraft accidents and incidents, and safety recommendations. This means we need your help. These reports come from the people who operate, maintain, and manufacture aircraft. The Aircraft Certification Service uses these reports to determine if a systemic airworthiness concern is present. The FAA in cooperation with the aviation industry notifies users of safety concerns through Manufacturer's Service Bulletins, General Aviation (GA) Alerts, Special Airworthiness Information Bulletins (SAIB), and Airworthiness Directives. The safety concern can also lead to a change in the aircraft design regulations. The continuous operational safety

approach has helped the aviation industry achieve the lowest accident rate in history. Today, design deficiencies are found to be the cause of approximately 10 percent of the accidents. The FAA Aircraft Certification Service is striving to lower this percentage even further. We need your help in identifying safety related design deficiencies and maintenance concerns.

If 10 percent of our accidents are due to design deficiencies, what causes the other 90 percent? A large cause is human error. Two things that can help in reducing human error is to understand; 1) what are the aircraft limits and 2) what are my personal limits? Understanding both of these limits will help us to reduce the likelihood of an accident.

Aircraft Limitations

When an aircraft is designed, there are certain limitations that are established and identified. These limitations are not just guidelines; they must be adhered to for a safe flight. For example, aircraft takeoff performance and flight characteristics are highly dependent on the flying weight of the aircraft. Flight in excess of the maximum gross weight limit will lead to attempted takeoffs that conclude in the trees at the end of the runway or end up in the muskeg at the end of the lake. Stall/spin recovery is severely reduced when the aircraft is overweight. If the aircraft is not loaded within



the center of gravity envelope, the spin resistance is reduced and recovery most likely is impossible. All limitations listed in the Aircraft Flight Manual must be adhered to at all times.

Another limitation that is not as obvious is conducting a thorough preflight inspection before each flight and performing all required maintenance and inspections. When an aircraft is certified, one assumption is that thorough preflight inspections will be performed. It is also assumed that the aircraft is being inspected annually by competent maintenance personnel. The purpose of these inspections is to continually monitor the condition of the aircraft for safe operation.



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